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TEACHER SUPPLY AND DEMAND IN CALIFORNIA, 1965-1975.
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A STATEWIDE STUDY OF K-12 TEACHER SUPPLY AND DEMAND IN CALIFORNIA FOR THE 1965-1975 PERIOD FOUND THAT--(1) THERE WILL BE LARGE ANNUAL SHORTAGES OF NEW ELEMENTARY TEACHERS IN THE NEXT 10 YEARS BUT AN ADEQUATE SUPPLY OF SECONDARY TEACHERS. (2) A MAJOR FACTOR IN THE ELEMENTARY TEACHER SHORTAGE IS A CHANGE IN THE NUMBER OF CERTIFICATED GRADUATES IN RECENT YEARS. (3) THERE IS NO CHANGE IN THE PROPORTION OF CALIFORNIA STUDENTS INTENDING TO TEACH. (4) BESIDES REQUIRING LONGER PREPARATION, ELEMENTARY TEACHING, AS COMPARED WITH SECONDARY TEACHING, IS SEEN AS LOWER IN PRESTIGE AND PAY, OFTEN MORE DIFFICULT, AND OFTEN LESS DESIRABLE BECAUSE IT AFFORDS NO OPPORTUNITY FOR SUBJECT SPECIALIZATION. (5) MOST INFLUENTIAL IN CHOICE OF A TEACHING CAREER IS K-12 TEACHER-PUPIL CONTACT. (6) IN COLLEGE, INFORMAL ADVICE AND INFORMATION IS MOST INFLUENTIAL IN THE CHOICE OF TEACHING AS A CAREER. (7) UNDERSUPPLY RECEIVES MORE ATTENTION THAN OVERSUPPLY AT CALIFORNIA TEACHER PREPARING INSTITUTIONS. (8) COLLEGES ARE INCREASINGLY AWARE OF THEIR RESPONSIBILITY TO PREPARE SUFFICIENT QUANTITIES OF WELL-EDUCATED TEACHERS. (9) A VARIETY OF FACULTY OBSERVERS DOUBT THE APPROPRIATENESS OF ELEMENTARY TEACHER EDUCATION CURRICULA. (10) MANY SCHOOL DISTRICTS HAVE EXTENSIVE RECRUITMENT PROGRAMS ON CAMPUS (THOUGH FEW REQUIRE TRAINING OF RECRUITERS), BUT POSITIONS FOR EXPERIENCED TEACHERS ARE LARGELY FILLED THROUGH UNSOLICITED APPLICATIONS. (AF)

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A Report to the State Board of Education
from the Teacher Supply Study Committee

and

Teacher Supply and Demand in California,
1965-1975, by Arthur D. Little, Inc.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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CALIFORNIA STATE DEPARTMENT OF EDUCATION
MAX RAFFERTY, Superintendent of Public Instruction
SACRAMENTO—1967

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FOREWORD

California schools have been faced annually with the herculian task of employing the number of teachers needed for providing a high quality program of education. Thus far, the schools have been reasonably successful in accomplishing the task, but this does not necessarily mean that they will be successful in employing the personnel they will need between now and 1975. Therefore, the schools must examine carefully enrollment trends to determine the number of teachers they will need to meet increased enrollments in the years ahead; staff attrition, to determine the number of teachers needed for replacements; and other forces affecting staffing requirements, to determine the number of teachers needed to meet new demands. And in making this examination, the schools must also endeavor to determine the type and extent of preparation that will be needed to provide the required instruction. The results of their examination will provide a basis for the decisions that must be made to secure the qualified teachers they will need.

The State Board of Education acted to secure from the schools an analysis of their staffing requirements by appointing a statewide committee to make a study for the period 1966-1975 and to recommend the steps that should be taken to make the required supply of qualified teachers available. This study, financed with federal funds under Title V of the Elementary and Secondary Education Act, has been completed, and the report of the findings and the committee's recommendations are presented in this publication.

The Department of Education is making this publication available statewide for study by all individuals who are in any way concerned with education, particularly those directly responsible for securing the qualified teachers needed by California schools. And the Department will conduct meetings at strategic points throughout the state to provide everyone an opportunity to express himself regarding the recommendations and to make known other ideas he believes would be beneficial in securing the desired results. I therefore urge each person who reads this report to be prepared to express himself regarding solutions to the problems faced by California schools in securing the teachers that will be needed in the 1966-1975 period.

Max Rafferty
Superintendent of Public Instruction

A Report to the State Board of Education from the Teacher Supply Study Committee

February 9, 1967

INTRODUCTION

The Teacher Supply Study Committee presents this report to the State Board of Education of its findings on California's needs for teachers in public elementary and secondary schools.

There are three general findings Committee members consider important to report at the outset. These findings constitute the Committee's general perspective of the supply of and demand for qualified teachers in California and may be stated in simple form as follows:

General Findings

1. The Committee forsees continuing critical shortages of qualified teachers available for employment in:
    a. Elementary schools
    b. Secondary schools in certain curriculum areas
    c. Schools and classes in all fields of special education
    d. Schools in farming, desert, and mountain areas remote from population centers
    e. Schools in economically disadvantaged areas
    f. Schools in some neighborhoods of ethnic minority groups
    g. Special programs created by the State Board of Education, the Legislature (e.g., Miller-Unruh, Casey, etc.), and the United States Congress
2. The shortages of qualified teachers are long-standing and, to some extent, national, but they will be especially acute in California in 1967 and for several years thereafter. The shortages are attributable to a wide variety of complex factors and confounding interactions of conditions.
3. The study conducted by Arthur D. Little, Inc., has convinced the Committee that the following measures are essential to alleviate some of the shortages:
    a. Immediate action
    b. Comprehensive plan
    c. Coordinated efforts based upon a task force concept
    d. Utilization of present structures so far as possible and the granting of necessary authorizations to complete the task

e. Delegation of specific responsibilities to individuals, to certain offices or departments, and to appropriate bodies

f. Cooperation among teachers, local school boards, organized professions, State Department of Education, State Board of Education, Legislature, and such partially defined groups as parents, communities, and communications media

g. More experimentation and innovation in teacher education and staff utilization

h. Evaluate periodically and systematically the results of the above measures

Committee Procedure

At its meeting on January 13, 1966, the State Board of Education elected to authorize an application for an Elementary and Secondary Education Act, Title V project to study teacher supply in California. Dr. Richard Clowes was invited to serve as chairman of the committee. Other members were appointed subsequently to represent various interest groups. Members appointed were: Mrs. Talcott Bates (State Board of Education), Mr. William Brown (Los Angeles City Schools), Dr. Kenneth Doane (State College Teacher Education Head), Dr. Mary Ellen Dolcini (California Teachers Association), Mr. Louis Heilbron (State College Trustees), Dr. Joel Hildebrand (University of California Academic Faculty), and Mr. Miles Myers (California Federation of Teachers).

A Title V project was written by the staff of the Bureau of Teacher Education and Certification in the amount of $60,941.00 and approved by the Board. The Teacher Supply Study Committee met on April 16, 1966, and decided that due to severe limitations of time imposed by fiscal arrangements the project could be fulfilled only by encumbering the Title V funds granted through a contract with an outside vender. Eight eminently qualified research firms were invited to submit a proposal to do the study as outlined in a plan approved by the Committee. (Appendix A) The proposal was defined in accordance with the charge given the Committee by the President of the Board in a letter of April 14, 1966, a copy of which is attached as Appendix B. As a result of Committee meetings held on May 14 and 27, 1966, with representatives of firms submitting proposals, Arthur D. Little, Inc., was chosen and a contract in the amount of $52,000.00 was signed formally on June 9, 1966. The Committee held meetings on June 2 and 24 with Arthur D. Little, Inc., officials to work out details of the study. Numerous sub-committee contacts with Arthur D. Little, Inc., were made to approve survey procedures.

The Committee has been concerned throughout its study with the serious and hampering limitations of time, staff, and financial inflexibility on its own work as well as on the Arthur D. Little, Inc., survey and report.

Periodic written and oral progress reports were made to the Committee by the Arthur D. Little, Inc., people. An oral summary report and a draft of survey findings was presented to the Committee by Arthur D. Little, Inc., on December 28, 1966. At a meeting on January 8 and 9, 1967, the Committee developed constructive criticism of the Arthur D. Little, Inc., draft summary for transmittal to its representatives and prepared a preliminary outline of its report to the State Board of Education. The Committee held its final meeting on January 22 and 23, 1967, and presents the following report and recommendations to the State Board of Education.

Outline of Recommendations

The Committee recommendations which follow are separated into five categories: (1) Selective Recruitment Into the Profession; (2) Selective Recruitment to District Employment; (3) Retention of Competent Teachers; (4) Teacher Preparation; and (5) Statewide Certificated Personnel Information System. Admittedly these categories are arbitrary classifications but selected with the hope of providing a measure of clarity and a concentration of concerns. Recommendations made are the result of Committee study of the Arthur D. Little, Inc., preliminary report supplemented by other materials and items of information.

SELECTIVE RECRUITMENT INTO THE PROFESSION

Recruitment into the profession is the joint responsibility of all those concerned with quality education--teachers individually, the organized profession, local governing boards, school districts, the community, colleges and universities, the State Department of Education, the State Board of Education, and the Legislature.

Action on the part of each of these groups is indicated. The recommendations which follow grow out of the central question: How can youth be encouraged to choose teaching?

Teachers

No other profession has the opportunity for self-perpetuation comparable to that of the teaching profession. The vast pool of potential candidates consists of those hundreds of thousands of students who work under the direction and influence of teachers for approximately a twelve-year period. It is imperative that individual teachers assume more responsibility in attracting certain of these young people to the profession.

The Committee recommends that teachers:

1. Maintain and reflect a high ideal of the value and dignity of their profession through their words and actions.
2. Identify future teacher prospects early, as early as elementary school in some cases, and that they encourage these students and assist them in achieving teaching career goals.

Local School Boards

The very existence of the schools is dependent upon an adequate supply of teachers to conduct their programs of instruction. Local school boards should share in the responsibility of recruiting young persons to the profession, recruiting teachers to the district, and in retaining competent teachers within the district. Teachers, administrators, and school board members should work closely and cooperatively in developing a total program of recruitment.

The Committee recommends that local school boards:

1. Support the establishment of future teacher clubs for qualified young people, such clubs to provide exploratory experiences including work with younger students, encouraging the best teachers to serve as sponsors.

2. Provide students with the opportunity of experiencing public education as a subject and as a career; e.g., tutoring, elective courses, field trips, counseling, career days.

3. Urge high school principals, counselors, and teachers to develop a plan for systematic scholarship counseling.

4. Form a community teacher recruitment committee to activate, coordinate, and stimulate the total recruitment effort.

5. Designate one or more persons to coordinate teacher recruitment activities.

The Community and Public

The total community shares in the responsibility for teacher recruitment and can do much to make teaching attractive and to increase the prestige of teachers in the community.

The Committee recommends that the community and public:

1. Provide scholarships, loans, grants-in-aid, and other financial assistance to future teachers.

2. Make it financially possible for each school district to establish truly competitive salaries as a means of attracting candidates to the profession and to the district.

The Organized Profession

The organized profession operates through its members and contributes to the total recruitment program at all levels.

The Committee recommends that the organized profession:

1. Publish and distribute materials on teaching as a career, including information on scholarships and other student assistance programs.
2. Assist in providing a program of scholarships, loans, and grants-in-aid for future teachers.
3. Organize a program of on-campus recruiting (talent scouting) as a means of drawing more college students into the profession.

Institutions of Higher Education

Institutions of higher education need to expand their role in the recruitment of future teachers, using both formal and informal means to inform them of college programs and career possibilities. Essential to any vigorous recruitment program is careful screening to assure high personal and academic standards.

The Committee recommends that institutions of higher education:

1. Strengthen and develop further the effectiveness of an all-campus teacher education committee in recruitment.
2. Promote the extension of teacher education facilities and resources to outlying areas. This is a most important recommendation.
3. Provide at the lower division level, in both junior colleges and institutions of higher learning, exploratory study of American public education. Such study should include opportunities for realistic work experiences with children and career study sessions utilizing outstanding practitioners, as well as provide opportunities to study the role and contributions of the public school system.
4. Establish an interdepartmental counseling program to work with interested students in initial recruitment, apprising them of shortage areas and advising them regarding teacher education program requirements.
5. Explore every means of providing financial assistance such as scholarships and student-loan programs, including remuneration for related teacher preparation including student teaching.
6. Encourage those who may desire to complete teacher education programs following completion of other careers, such as Peace Corps, military, and homemakers, and develop programs which are designed to meet the special needs of such persons.
7. Provide varied, realistic field experiences to broaden student backgrounds, and to interest some candidates in geographic areas other than those near their own teacher preparation institutions.

SELECTIVE RECRUITMENT TO DISTRICT EMPLOYMENT

The demand for teachers is directly related to three major factors: (1) replacement of teachers leaving their positions; (2) supplying teachers for increased enrollment; and (3) supplying teachers for enlarged school offerings and services, including an improved ratio of pupils to teachers. As pointed out in the general findings, the rural and/or urban aspects, the geographic location in the State, the socioeconomic conditions, and problems of ethnic composition additionally influence a district's demands for teachers.

Normal teacher demands are generally predictable for most school districts. But demands resulting from specially funded programs, new housing developments, and demands which are affected by necessary budgetary changes may be very difficult to predict. Teacher supply is also difficult to predict. Teacher supply depends primarily upon three main sources: (1) new teacher education graduates; (2) teacher education graduates of previous years who have not taught; and (3) re-entrants or teachers who have taught at some earlier time but are not employed currently as teachers.

Recruitment efforts to obtain qualified teachers to staff the classrooms of a district should be coordinated by one or more personnel specialists and should involve both teachers and administrators.

The recruitment of teachers throughout the State would be eased by greater emphasis upon the following:

1. Provision of district salary schedules which encourage career classroom teaching.
2. Provision of liberal rating-in policies for teachers with experience anywhere (in or out of the State) and/or advanced preparation.
3. Provision by the State Teachers Retirement System for credit for out-of-state service.
4. Need for legislation authorizing teaching mothers to deduct child care expense from income tax.

Out-of-State Recruitment

The Committee believes strongly that California colleges and universities should be the primary source of new teachers. Campus recruitment throughout California by local school districts should be intensified.

However, since this source is not adequate to meet in-migration needs for staffing schools, out-of-state recruitment of qualified teachers is necessary. Such recruitment should be confined to those candidates who meet certification standards of the state in which they were prepared and who also meet the requirements on the basis of partial fulfillment for the State of California.

The Committee recommends to the State Board of Education that it adjust its secondary credential requirements and grant credentials on the basis of partial fulfillment of requirements to high school and junior high school teachers who have completed four-year programs of secondary school teacher preparation in their own states.

Out-of-state recruitment should be directed to those states that most closely parallel the preparation of teachers within the State of California, and should be a continuous and dynamic effort to interest teachers in California not only as a place to teach but as a place to live.

The State Department of Education and individual school districts should increase the development of audio-visual materials supplementing out-of-state recruiting. Such materials are invaluable in providing information about California as a place to teach and can assist materially in clarifying State credentialing requirements.

Returnees

The necessity for encouraging former teachers to return to service and for recruiting teacher education graduates who have not previously taught mandates the creation of a State Registry of Teachers. Identification and recruitment of former teachers who may be interested in part-time teaching could mean a substantial contribution to overall needs. A Registry of Teachers could assist materially in the recruitment of qualified teachers by school districts by providing information concerning interested candidates.

Every school district has an obligation to provide refresher training to former teachers or inexperienced teachers who indicate an interest or willingness to teach. School districts should encourage innovative utilization of teachers available only for part-time or half-time teaching.

RETENTION OF COMPETENT TEACHERS

Magnitude of the Annual Turnover

Blair E. Hurd, Coordinator of Teacher Recruitment, Bureau of Teacher Education and Certification, State Department of Education, writing in California's Need for Teachers 1965-75, page 16, stated:

> Recent experience indicates that approximately 15.8 percent of the teachers employed during any school year will not be available for employment in the same school district the next year. In fact, 8.3 percent will not be available for employment in California teaching positions at all; while the remaining 7.5 percent will make interdistrict transfers in California. On the basis of the reports cited earlier, this 8.3 percent replacement factor is made up of resignations (4 percent), leaves of absence (2.1 percent), retirement (1 percent), dismissals (0.6 percent), death (0.1 percent), and changes to non-teaching assignments (0.5 percent).

The annual numerical loss from resignations and transfers to non-teaching positions in the school system he forecasted as 7,400. This represents a turnover much higher than in most other occupations served by professionally educated personnel. A large fraction of these will consist of experienced teachers whose talents are such as to enable them to command higher salaries and more satisfactory working conditions in other employment. These will be the persons whom the school system can least afford to lose.

Recommendations to Reduce the Loss of Teachers

This loss can be reduced by improvement in conditions that contribute largely to satisfaction in teaching positions. The studies made under the direction of this Committee and the wide acquaintance with teachers and schools by the members of this Committee lead it to agree with recommendations made by the Citizens Advisory Commission on the Public Education System in its report of 1961. In its section on Teachers, Teaching and Credentialing, it asserted (pages 18-22):

> In order to provide teachers and teaching of the best possible quality for all classrooms, no significant factor contributing to that end must be overlooked. The extensive studies of this problem by the Commission and other agencies, and especially a flood of testimony by teachers themselves, reveal the following factors as being of major importance: salaries, social status of the profession, working conditions, relations with administrative officers and supervisors, criteria for advancement, educational policy and requirements for credentials.

The Advisory Commission amplified its views on these factors in statements with which the Committee is in substantial agreement. The Committee, therefore, restates them in its own words, and recommends to the State Board of Education that it call attention to the measures that follow designed to reduce loss of competent teachers, and urge all school boards, administrators, and teacher groups to give them careful attention.

1. Classroom teachers should participate as partners in defining objectives, in determining the content of courses and curricula, in the selection of teaching materials, and in teacher assignments. Teachers representing teachers should be selected by teachers.

2. Interruptions of classroom teaching should be held to a minimum.

3. Extracurricular activities should not interrupt the regular instructional program.

4. Teachers should be free from non-teaching assignments such as, but not limited to, cafeteria duty, playground supervision, and clerical work.

5. The abilities of superior career teachers should be utilized in the most effective ways possible.

6. Each teacher should have office space.

7. Teachers should be protected against harassment. Teachers and pupils must be assured of protection by local governing boards and district administration from physical harm and property damage.

8. Relations between teachers and administrators must be friendly and considerate. The character, competence, and conduct of each must be such as to establish mutual confidence and respect.

9. A teacher should be free to teach and children to learn without being hindered. Special provision should be made for children whose characteristics require special treatment.

10. Discipline is initially the responsibility of the teacher but cannot be effective without the support of the principal, superintendent, parents, school board, and pupil. Clear understanding by all of the established disciplinary procedures is a material aid to such support, as is well demonstrated in school systems where discipline policy standards are published.

11. A class should not be so large as to make it difficult for the teacher either to maintain order or to teach effectively.

12. Effective teaching of certain subjects, especially English composition, requires that students undertake written assignments and that they be carefully read and corrected; the total number of students assigned to a single teacher must be so limited as to permit this to be accomplished during normal working hours.

13. A self-respecting, well-educated person will not remain long in a school where an atmosphere of intellectual achievement does not permeate the school and where scholarly achievement is not appreciated.

14. Many teachers recruited from out of state begin teaching on the basis of partial fulfillment of requirements. These requirements to be fulfilled most often will be in academic subject matter majors and minors, particularly for elementary teachers. Courses to meet these requirements must be made available to teachers at times and in geographic locations which will facilitate completion of requirements for standard certification.

Salaries of Teachers

Distinguished teaching is an art, calling for high qualities of mind, character, and personality. Persons of talent and ambition seek occupations in which excellence is recognized and esteemed. They seek security by achievement. In a profession there should be no upper limit of recognition for excellence. In regard to salary, a high floor under a low ceiling is not satisfactory. Therefore, the salary for teachers of unquestioned competence should be raised to a level high enough to encourage them to remain in the classroom. It should not be necessary for a man for whom teaching is a high calling to have to desert teaching for administration in order to support his family.

The Committee recommends that criteria that recognize excellence for advancement in status and salary be studied and formulated by teacher groups, local school boards, and school patrons. The 1961 Advisory Commission and other groups have suggested several criteria that might be applied. In every other profession excellence is recognized and rewarded; there is no way by which the teaching profession could so enhance its own prestige as by identifying and honoring its outstanding members.

In certain areas of serious shortage of well-qualified candidates, it may be necessary, if children are not to be cheated of opportunity, to pay the "market price" for skillful teaching. This is a price that must be paid in a free economy.

The schools cannot expect to attract and hold a competent young scientist, for example, by paying him for half the salary he can command elsewhere. If elementary schools cannot hold competent teachers at present salaries, higher pay must be offered because competent teaching is more crucial at this level than at any later stage. Failure to attain a good foundation in reading and arithmetic is a nearly fatal obstacle to all later learning.

Fringe benefits are important and supplement salaries. Both must be considered as plus factors to the retention of teachers. However, fringe benefits should be made transferable as provided currently in the case of illness leave. The entire matter of fringe benefits should be given careful study.

TEACHER PREPARATION

The Arthur D. Little, Inc., study confirms that a pronounced shift of interest has occurred among teacher education students in California colleges and universities. In the 1950s two-thirds of these students were interested in careers as elementary school teachers and the remainder expressed interest in careers as secondary school teachers. Presently, two-thirds are interested in secondary school teaching, and only one-third are interested in elementary school teaching. The largest shortage of teachers in the next few years will be in the elementary schools.

The Committee recommends that coordinated action be taken through institutions of higher education, the State Department of Education, the State Board of Education, school districts, and the profession to increase interest in elementary school teaching as a career.

The Committee reaffirms its commitment to the basic objective of the Licensing of Certificated Personnel Law: A well-educated teacher with rich background in the liberal studies, strong preparation in the subjects he will teach, and sufficient professional understandings and skills to begin a teaching career upon completing an entry-level teacher education program. Members of the Committee believe that some reorganization of the authority-responsibility continuum should be made to achieve the fulfillment of the intent of the licensing law and the spirit of the participants in the dialogue leading to the passage of the law.

The Committee recommends that the Legislature place more reliance upon the State Board of Education in the further development and maintenance of credentials by lessening the detail and specificity of its Statutes. One only has to review the detail with which present Education Code Credential Sections are written to recognize the magnitude of this recommendation.

In turn the Committee recommends that the State Board of Education simplify its own administrative regulations by including less detail and specificity. The Committee recommends that the process of accreditation be strengthened through the development of general and functional accreditation criteria. The accreditation process places more responsibility upon quality program development in the colleges and universities rather than the quantification now required by the specificity and detail in the law and regulations.

The full effect of the Licensing of Certificated Personnel Law cannot be assessed at this time because too few students have completed programs under regulations implementing the new law. The Committee believes that the academic preparation of the elementary school teacher, statewide, is not clear, insufficiently related to the intent and the spirit of the new Law, and perhaps not related to the work of the elementary school teacher in school districts.

The Committee recommends that approved institutions develop academic specializations appropriate to the objectives of producing an educated person who is competent in the elementary school classroom. The Committee recommends the immediate launching of a study to be completed within two years to determine the scope and the depth required for teaching in the elementary school for the last third of the twentieth century.

Institutions have responsibilities related to the teacher shortage. The Committee recommends action as follows in the fulfillment of these responsibilities:

1. Establish a system of advisement to serve students who are admitted with declared interest in teaching careers. Knowledgeable advisers should be assigned from the first term to the end of the program.

2. Distribute frequently on campus up-to-date information about the teacher shortage (levels, subjects, geographical areas) to advisers and students.

3. Develop programs to aid students who have prepared in an oversupply area to convert to preparation in a shortage area. Perhaps this will necessitate the development of one or two new courses to arrange the re-composition of academic specialization or professional education.

The magnitude and severity of the teacher shortage should be brought home to the academic community. Each institution's all-college committee on teacher education should examine the available data, assess the institution's commitment, develop suitable programs of action, and evaluate the results.

California is heavily dependent upon teachers recruited from out-of-state colleges and universities. Most such teachers to date are credentialed on the basis of partial fulfillment of requirements. California colleges and universities are responsible for developing fifth year programs to enable teachers to meet all requirements and this adds a heavy burden in advisement beyond the regular programs.

The Committee recommends that the State Board of Education aid colleges and universities in seeking funds to cover additional costs of providing advisement and other services to the thousands of holders of partial credentials who must complete a fifth year of preparation.

The Committee concurs with the Board that internship programs for the preparation of teachers offer an attractive possibility for recruiting college graduates into teaching. The internship model, as differentiated from the student-teaching model, has been tested sufficiently to justify more widespread use. Adequate funding for the required intensive supervision of interns has not been achieved.

The Committee recommends that the State Board of Education aid colleges in seeking funds to pay for the costs of the intensive supervision of interns required in internship programs.

STATEWIDE CERTIFICATED SCHOOL PERSONNEL INFORMATION SYSTEM

The Committee strongly concurs with the Arthur D. Little, Inc., staff recommendation for the establishment of a comprehensive professional personnel management information system in the State Department of Education. As the report recommends:

> This would involve a continuing census of teachers, keeping particular record of those teachers who leave the profession but who may, if kept informed and interested, come back into the field at some later time. The personnel information system should be formed on the basis of logical, regional divisions, and perhaps structured through formalized, regional councils made up of various parties of interest; that is, representatives of local school districts, the teacher-preparing institution, and teachers organizations.

Staff members in the Bureau of Teacher Education and Certification, in concert with district administrators and college and university staff members, have for many years recognized the dearth of available information about California certificated school personnel in comparison with that possessed by most other states.

The recommendations of Werner Z. Hirsch in "Teacher Supply and Demand in California," which was prepared for the State Committee on Public Education, call for the creation of a California "lookout station" for systematic exploration of future needs, the identification of coming problems, and the establishment of goals and directions. The lookout station envisioned is, of course, more than a certificated personnel management information system, but it recognizes the need for adequate basic information before intelligent planning can be done. Hirsch cites the need for an improved flow of information on teaching positions that are open and persons with teaching credentials who are in the job market.

The continuing need for basic information on the more than two hundred thousand full and part-time certificated employees who hold professional positions in the public school districts in California is recognized by the Committee.

With the addition of a "scanner" which will read basic raw data electronically, present automated data processing equipment in the State Department of Education can process, with limitations, the data required. More sophisticated equipment will, of course, make analysis more comprehensive, faster, and efficient. There is need for random access which is not now available in the present State Department of Education system. However, without the addition of extremely expensive equipment, basic data can be made available which will be a marked improvement over the almost complete lack of this kind of information now available.

The addition of research staff to the Department of Education is extremely important to initiate and organize the additional data needed. Sophisticated professional research personnel are needed in the Bureau of Teacher Education and Certification to establish and maintain the information system. Additional staff in the automated data processing section of the State Department of Education will be needed also.

This Committee recognizes the need for an up-to-date cumulative record (registry) of credentialed teachers, including current addresses, preparation, assignments, experience, and other information. Questions have been arising repeatedly as to whether there is a shortage of teachers because thousands of credentialed teachers are not now employed as teachers. No solid information is available at the present time regarding these teachers. Therefore, only generalized and sometimes contradictory pronouncements can be made. Accurate information on the various aspects of teacher supply only will be possible when an adequate statewide certificated school personnel information system is established, properly staffed, and maintained. The need for the present study and its limitations are testimony for the recommendation.

Such an information system in the State Department of Education will require close cooperation among various groups; namely, the Department of Education, institutions of higher education, and school districts. Accurate school district personnel records will need to be maintained so that data will be valid. To initiate the system, it will be necessary to collect data on a crash basis. Following this, however, the system will need to be kept up to date and cumulative.

The Committee recommends that the State Board of Education take the necessary steps to insure the establishment, staffing, and maintenance of the statewide certificated school personnel information system in the Bureau of Teacher Education and Certification, State Department of Education.

GENERAL RECOMMENDATIONS

In preparation for the last third of the twentieth century of public education in California, the Committee recommends:

1. The State Department of Education sponsor one or more statewide conferences to help chart recruitment efforts in two sectors:
   a. Recruitment and selection into the teaching profession; that is, who will prepare to become teachers. In 1956, 1957, and 1958 the State inaugurated its statewide role in selective recruitment with three series of statewide conferences. In the Committee's estimation, the time is here to review our past, to evaluate our present, and to think of our future.
   b. Recruitment and selection into school districts; that is, who will be employed as teachers. Good personnel practices are keys to retention. One or two statewide conferences for this purpose seem indicated as well.
2. The State Department of Education set in motion procedures on a statewide basis to determine the course of public education during the next several decades. Specifically and primarily, the charge is to explore the direction and organization of the public elementary and secondary schools in the State, with emphasis upon the tasks of teachers in such schools and the preparation they need.
3. The State Board instigate a study, through its staff and others, directed toward simplifying credential laws and regulations.
4. The State Department of Education establish regional Personnel Resource Centers to provide:
   a. Teacher career guidance and counseling
   b. School district and county school office credential information
   c. College and university credential assistance
   d. Individual help as needed

Members of the Teacher Supply Study Committee

Chairman:	Richard M. Clowes	Superintendent, Burbank Unified School District
	Mrs. Talcott Bates	Member of the State Board of Education
	William Brown	Assistant Superintendent, Los Angeles City Unified School District
	Kenneth R. Doane	Dean, ~~Division of Education and~~ Psychology, California State College at Fullerton
	Mary Ellen Dolcini	Principal, Emerson Junior High School, Davis
	Louis H. Heilbron	Member, Board of Trustees, California State Colleges
	Joel H. Hildebrand	Professor of Chemistry, Emeritus University of California, Berkeley
	Miles Myers	Teacher, Oakland Senior High School
Staff:	Blair E. Hurd	Coordinator of Teacher Recruitment, State Department of Education
	Carl A. Larson	Chief, Bureau of Teacher Education and Certification, State Department of Education

Appendix A

INVITATION TO SUBMIT A PROPOSAL TO PROVIDE RESEARCH AND CONSULTANT SERVICE TO THE STATE DEPARTMENT OF EDUCATION

A. Scope

The research firm is requested to submit a proposal to make a thorough study of the supply of and demand for elementary and secondary teachers for the public schools of California. The firm is further requested to make recommendations for legislative, regulatory, or administrative changes or procedures to solve the problems identified. In support of its findings, the research firm will be expected to provide valid and appropriate data in answer to the following questions:

1. Will there be a teacher shortage in 1966-67 and in the period ending in 1975?
2. If there are shortages, in what subject areas, grade levels, and regions of the state do, or will these shortages occur?
3. Are shortages due to any of the following:
    a. Lack of information given high school and college students?
    b. Lack of in-state or out-of-state recruitment?
    c. Credential requirements either legislated or established by State Board of Education regulation? Which?
    d. Management of credential requirements?
    e. Teacher education curriculum requirements of state colleges, the University of California campuses, and independent institutions? Which?
    f. Employment requirements of school districts?
    g. Lack of availability of course work at times teachers in-service can attend?
    h. Special problems in certain subject areas, in certain geographic areas, in "poverty" areas, or in "tough discipline" areas?

i. Assignment procedures of school districts?

j. Practical problems encountered in the exercise of the teaching function at each of the levels?

k. Competition from other professions or vocations?

l. Deficiencies and disparities in the compensation of teachers?

B. Conditions

1. The research firm will furnish reports at regular intervals as required by the Committee on Teacher Supply and provide data to aid the Committee in evaluating the conclusions and recommendations made by the firm.
2. The research firm will complete the study and submit a final written report in 50 copies by December 31, 1966.
3. The research firm will obtain Committee approval of the composition and design of the study.
4. The research firm will release information about the study only to the Committee unless given special authorization by the Committee through its Chairman.
5. The research firm will respect the confidential and anonymous nature of all information where possible and appropriate.
6. The research firm will follow the best research techniques available.
7. The research firm will begin its work by the time stated in its proposal which shall be within 30 days after a contract is approved.
8. The research firm will provide the necessary staff and material to perform the study as proposed.
9. The research firm will have available the staff of the Bureau of Teacher Education and Certification for interviews, discussions, and consultation as staff time permits.
10. All data collected by the research firm and the firm's working papers will belong to the State Department of Education.

C. Specific Activities

The research firm will be expected to answer the questions outlined in the scope of the study (A) through performance of specific activities.

1. The Study Committee seeks answers to the following questions from a diversified sample of representatives of California State Colleges, University of California, and private colleges and universities. The sampling should include responses from the spectrum of higher education: faculty in subject matter areas commonly taught in the elementary and secondary schools, faculty engaged in teacher education programs, placement officers, academic administrative officers, and student personnel officers.

   a. To what extent is information about teaching as a career presented to students in various subject matter areas?

   b. To what extent, if at all, do faculty members actively encourage or discourage students in considering elementary and secondary teaching careers?

   c. How well informed are faculty advisers concerning programs and procedures for students in their disciplines to prepare as elementary and secondary teachers? How well informed are these advisers about subject areas of critical needs for and oversupply of teachers?

   d. What are the reasons for recent changes in choices of teaching level (i. e., elementary changing to secondary) among students preparing as teachers? For changes to career choices outside of teaching?

   e. How are teacher education institutions carrying out the higher academic standards prescribed by the 1961 certification law and the regulations implementing that law?

   f. To what extent have interdepartmental majors been utilized in the preparation of elementary teachers?

   g. Are appropriate upper division or graduate courses in subject matter areas offered at times when teachers can take them? (After school hours and during summer sessions for partial fulfillment credential holders, those working for advanced degrees and for in-service improvement.)

   h. Has the number and/or percent of change of teachers trained by California institutions declined in the past two years? If so, how much, in what fields, and why?

   i. If there is a decline in the number of teachers being trained, what is being done to seek to reverse the trend?

   j. What are the prospects for improvement in the supply? How soon, to what extent, and in what fields?

2. The Study Committee seeks answers to the following questions from a diversified sample of four-year college and university students studying in subject matter areas commonly taught in the public schools:

    a. What information, advice, or other influence (if any) have they received in high school and college about opportunities and requirements of teaching.

    b. Why did students now in training as secondary teachers choose the secondary over the elementary specialization and vice versa?

    c. Of students who have considered (carefully) teaching as a career, when was this consideration, and what factors caused their decision against teaching? (Address particularly to shortage fields.)

3. The Study Committee seeks answers to the following questions from a diversified sample of teachers, ex-teachers, and "drop-out" teachers:

    a. What factors that tend to decrease the attractiveness of teaching are serious impediments to recruitment?

    b. What factors contributed to the "leaving" and "staying out" of those doing so? What would it take to attract them back to teaching?

    c. Do the leavers intend to return to teaching? What problems do they face in returning?

    d. Have secondary teachers considered the possibility of moving to elementary teaching? What problems do they face in doing this?

    e. Do the long range career plans of teachers include upward mobility? (Elementary to junior high to secondary to junior college)

    f. How appropriate do teachers consider their subject matter majors and/or minors in terms of their teaching assignments?

4. The Study Committee seeks answers to the following questions utilizing, if possible, a matching of districts, regions, or areas which have shortages of teachers with otherwise comparable districts which do not have shortages:

    a. What factors cause differences in recruitment ability between low shortage and high shortage districts?

   b. What special problems of teacher supply and assignment are there in various teaching situations: large school districts, small districts, urban or rural districts, primary or upper elementary or junior high or high school, various subject areas, and various geographic areas?

5. Is there, or will there be a decrease in the available (recruitable) supply of out-of-state teachers? If so why is this, and what can be done about it?

6. Where, what type, and how many certificated personnel are currently employed? How many are not employed?
   a. What is the average length of service of teachers of various subjects and at each level?
   b. To what extent are part-time teachers being utilized?
   c. What are the rates of replacement, promotion, leaves of absence, resignation, and dismissal?
   d. How many of the 1966-67 staff were recruited from out-of-state?
   e. How do the salaries paid teachers in shortage fields compare with those paid to teachers in oversupply fields?

D. Proposal

You are invited to submit a proposal to be incorporated as a part of the contract setting forth the following, and any other information that you feel is pertinent:

1. How the proposed questions and research activities will be handled and performed.
2. The names and qualifications of the project supervisor and each of the principal members of the team that would work on the project, including consultants from other firms to be employed by the contracting firm and used for significant parts of the project.
3. How soon the work will start after a contract is approved.
4. Maximum costs of all work described in this invitation for proposals.
5. Categorized and itemized statements of maximum charges for doing the work described in each phase or part of the study (including method of handling travel expenses, other expenses, and progress payments).
6. A priority ranking of phases of the study based on greatest value and contribution to the whole study.

Appendix B

CALIFORNIA STATE BOARD OF EDUCATION

April 14, 1966

Dr. Richard H. Clowes, Chairman
Teacher Supply and Demand Committee
State Board of Education
% Burbank Unified School District
245 East Magnolia Boulevard
Burbank, California 91503

Dear Dick:

On behalf of the State Board of Education, I want to thank you and your fellow members of the Teacher Supply and Demand Committee for accepting responsibility for a difficult and time-consuming task.

Your Committee is charged with a study of current demands as well as long-term needs for certificated personnel with particular reference to teacher supply. Among the questions the Board hopes your study will answer are the following:

1. Where, what type, and how many certificated personnel are currently employed?
2. How does teacher supply relate to assignments of teachers in their major and minor fields of preparation? To the holding power of various levels and subjects? To the mobility of teachers?
3. Where, what type, and how many qualified certificated personnel are not now employed?
4. How many students are there in high schools and colleges who are interested in teaching?
5. How do high school and college students perceive the job of teaching and to what extent is this related to teacher supply?
6. How much do various school districts pay teachers and what effect does this have on teacher supply?
7. How are teacher education institutions carrying out the higher academic standard prescribed by the 1961 Legislature?
8. What improvements are needed in out-of-state and in-state recruitment practices?

When possible, I am sure you will want to consider coordinating your data gathering procedures with those regularly done by the Department of Education.

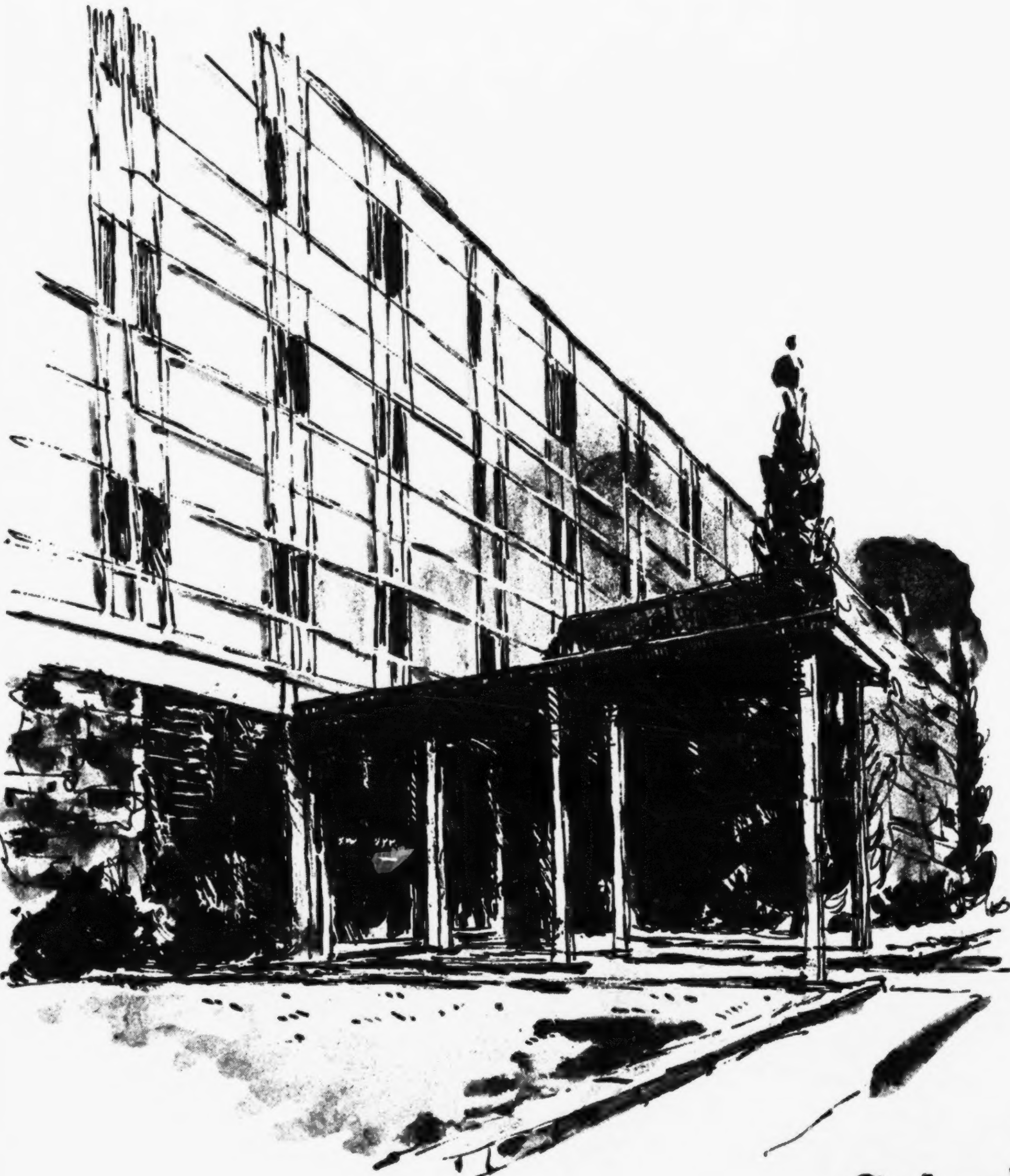
The Board will look forward to your reports and recommendations.

Yours,

Thomas W. Braden
President, State Board of Education

TEACHER SUPPLY AND DEMAND IN CALIFORNIA, 1965-1975

FEBRUARY 1967
C-68494



Arthur D. Little, Inc.

TEACHER SUPPLY AND DEMAND IN CALIFORNIA, 1965-1974

SUMMARY

METHOD

A systems analysis of K-12 teacher supply and demand in California was carried out in order to assess the extent of shortages and recommend ways of coping with those found. Almost 5200 teachers in 142 districts responded to a survey of their backgrounds, experiences, and attitudes with regard to teaching. More than 80 superintendents and 540 principals in these districts supplied attrition and loss statistics and information on school and district policies and characteristics. Teachers, school administrators, and faculty members in California Teacher Preparing Institutions (TPI's) contributed ideas and insights about the issues and problems in teacher supply and demand.

About 125 students in California TPI's and junior colleges indicated their perceptions of the advantages and disadvantages of teaching and other careers, and influences on their career decisions. Thirty-six of the forty-nine California TPI's provided data on actual and projected enrollments in elementary and secondary education and information on career counselling. Thirty-one out-of-state TPI's which have supplied significant numbers of education graduates to California did the same. State Department of Education and State Department of Finance data were used to project teacher demand.

These sources of data provided the material for an analysis of the inputs to and outputs from California teaching, and the variables related to them.

Teachers and principals who responded to the surveys were found representative. California TPI sample data were found consonant with those of all TPI's. Superintendents' surveys underrepresented very small districts.

FINDINGS

The results summarized below are generally applicable to California teaching. We were impressed however, and wish to emphasize our impression, with the heterogeneity of education in California. There are wide variations in districts, in their size, their closeness to TPI's and metropolitan centers, their pupils, their salary ranges, the intellectual and human relations climate in their schools, and their philosophies of education. All these affect teacher supply and demand markedly and contribute to wide regional and district variations in applicant to vacancy ratios, loss rates, and the resulting adequacy or shortage of teachers.

By any reasonable set of assumptions about attrition, and assuming that present TPI trends continue, there will be large annual shortages of thousands of new elementary teachers in California in each of the next ten years. On the other hand, the overall supply of secondary teachers appears to be adequate or even include some overage. The secondary balance hides shortages or overages in subject matter (especially mathematics and physics) and some geographic areas. Exact data on these latter types of shortages were not available for analysis. Our limited number of interviews with school districts provide definite indications of them, however. The comparatively small overages which we believe will exist in some areas of secondary teaching, even if they can be applied to the elementary shortage, will not be enough to solve it.

A major factor in the shortage of elementary teachers now and in the next ten years is the change, beginning in 1962, in the grade level of graduates from California TPI's. Formerly, up to two thirds of California credential candidates received their certificates in elementary education; the ratio from 1967 to 1974 is expected to be about 45%. This brings California closer to the national average, 38%.

No change is expected in the proportion of California students intending to go into teaching. A hard core of young people seem almost "predestined" to become teachers. The 1961 Certificated Personnel Law has not discouraged them; it has only channelled a higher proportion of them into secondary teaching. The 1961 Law, by instituting a five-year program for elementary teachers, caused those who would have graduated in 1966 under a four-year program to do so in 1967, thus causing a drop in the total number of 1966 teaching-prepared graduates, compared to the 1965 graduates. Many more returners seem to have begun teaching in 1966, than in previous years, probably to fill this gap.

There is evidence that California TPI's increase teacher supply about 10%, by providing teacher education for graduates of out-of-state high schools. Out-of-state TPI's have supplied about 40% of California's teachers.

We have been forced to the conclusion that the decrease of elementary-educated TPI graduates is coincident in time with the institution of the Licensing of Certificated Personnel Law of 1961 as amended and the accompanying State Board of Education Regulations.

However, the decrease in elementary candidates is also related to other factors. While the requirements for elementary teaching are now the same as or slightly higher than those for secondary teaching, teaching on the elementary level is still perceived by teacher candidates as having lower prestige and pay and, in many cases, as being more difficult than secondary teaching. Also many teacher candidates feel, as a result of their education in accordance with the new legislation, that since they know one subject in some depth, they prefer to teach it full-time, rather than teach many subjects in an elementary school. Young people also sometimes choose secondary over elementary teaching because they believe secondary salaries are higher. We found little difference between elementary and secondary salaries for women.

The primary influences on people to become teachers are the contacts between teachers and pupils that occur between kindergarten and the end of high school. Conversely, influence, advice, and information during college have marginal effects, hardly affecting the "predestined" teacher or non-teacher, although probably having some effects on those with uncertain career choice.

In college, informally transmitted advice and information has the strongest influence on students. Informal influences most often cited were word-of-mouth information (e.g., former roommates) or information from inspiring teachers. The most striking feature of the college advising system is the tendency for a professor or a few professors in a subject matter department to become the specialist(s) in advising students on teaching careers and requirements. These specialists are typically well-informed and sympathetic toward teaching as a career. Other professors are typically uninformed about teaching needs and requirements.

Very few California TPI's report having formal institution-wide procedures for dealing with the over-supply of teachers in certain areas. This is not true of out-of-state TPI's. The problem of under-supply in subject matter areas receives more attention than the analogous problem of over-supply at California TPI's.

California TPI's major problems about certification changes center around their frequency, difficulty in interpretation, the divisive consequences between education and subject matter faculties, and placement problems. California TPI's report significantly more difficulty in meeting their state's certification requirements than do out-of-state TPI's. Changes in philosophy and curriculum reported by California TPI's reflect an attempt to respond to these changing certification requirements. The confusion and conflict associated with the changeover have ameliorated. Things have settled down so that interested faculty know the major requirements for credentialling, know the shortage areas, and can concentrate on educating teachers under the new rules.

There is an increasing awareness on the part of all the colleges we visited, and in all their departments, of the need for teachers and the responsibility of the college, among its other responsibilities, to prepare a sufficient quantity of well-educated teachers.

A variety of faculty observers doubt the appropriateness of the elementary curriculum for elementary teaching needs.

Turning from the original source of teachers -- the TPI's, -- another key element in teacher supply is the attrition or turnover rate, the lowering of which will help reduce shortage. We must note that the great majority of elementary teachers are women. They constitute a very mobile population -- young women who leave teaching to marry or have children, or who have no real tie to a particular area, and women who move when their husbands are transferred or take a job in another place.

Analysis of more than 60 variables indicates that some satisfactions of women elementary teachers, who make up 86% of the elementary teacher group, in large or small districts are significantly* associated with their school's holding power. We believe that if more teachers in more schools were satisfied with these factors, loss rates would be reduced:

	District Size
Satisfaction with personal interest shown in teachers by principal**	small
Satisfaction with fringe benefits**	large
Satisfaction with salary**	large
Satisfaction with respect from the community**	large
Satisfaction with high quality of fellow teachers**	large
Satisfaction with respect from other teachers**	large
Satisfaction with pupil discipline	large

Further, we believe that the loss rate can be lowered in secondary schools by improving the following satisfactions and objectively defined characteristics, which the same analysis as above found significantly associated with low turnover for women or men teachers, in large or small districts; as indicated:

---

* All variables listed in this and the secondary school analysis are statistically significant. Those which are very significant are listed first and indicated by a double asterisk,**.

	Sex	District Size
Satisfaction with quality of fellow teachers**	men	all
Satisfaction with salary**	men	all
Satisfaction with training in subjects taught**	men	large
Satisfaction with personal interest in teacher by principal**	women	large
Satisfaction with respect from school administrators**	men	large
Satisfaction with fringe benefits**	men	large
Satisfaction with number of classes**	men	large
Satisfaction with pupil discipline**	men	large
Having fewer than 6 class periods	men	large**
		small
Teacher salary over $8000	men	large
		small**
Satisfaction with pupils' cultural background	men	large
	men	small**
Satisfaction with pupils' intellectual quality	women	large
	men	large
	men	small**
Satisfaction with climate	men	large
	men	small**
Satisfaction with respect from other teachers	women	small
	men	large
Satisfaction with school protection from outside pressures	women	all
Satisfaction with class size	women	all
Satisfaction with fairness of school administrators	women	small
Satisfaction with number of preparation periods	men	small

	Sex	District Size
Satisfaction with superintendent protection from outside pressures	women	large
Satisfaction with opportunities for professional growth	men	small
Spending fewer than five hours a week planning lessons	women	small
Satisfaction with personal interest from department head	women	large
Satisfaction with teacher prestige among pupils	women	small
Satisfaction with respect from the community	men	large
Number of teachers over 45 years old	women	all

Many women leave teaching temporarily or permanently to raise children. Those who have not returned form a reservoir who might return to teaching, either full or part-time. One method to alleviate the elementary teacher shortage has been tested and found to work successfully: partnership teaching programs, by which two teachers with family responsibilities, each half time, fill one teaching vacancy. This method fulfills the need of the district and uses the teacher's time in a way satisfactory to her.

We found very frequent concern with salaries among men; far less frequent among women. Teachers believed that their male acquaintances who left teaching typically did so because of low salaries. Our respondents' own reasons for leaving California districts also show how salary and human relations and working conditions in the schools contribute to turnover.

Forty-five percent of male teachers earn money during the summer. One out of three male teachers takes employment in addition to teaching, during the academic year. This rate is twice as high as that for teachers nationwide.

Teachers who feel they are assigned to teach subjects in which they have not received adequate formal training and those with relatively low salaries and few years of experience are more likely than others to intend to leave teaching.

When teachers were asked which incentives would do most to keep them in teaching, the two most frequent responses were "10% higher salary" and "10% smaller class size." Many teachers also wrote in to urge that the California retirement system give credit for out-of-state teaching. The study shows the number of present teachers affected and their longevity, should this change be instituted.

Turning now to the school districts, we find that while many have extensive interview recruitment programs on college campuses - in and out of state - they fill their experienced teaching positions largely through unsolicited applications.

Few school personnel administrators have formal training in personnel techniques. Few districts require training in recruiting for their recruiters.

Great confusion exists about subject matter shortages. Superintendents' offices typically do not have such information available. Judged by our survey's data on teachers assigned to areas in which they did not have formal education in depth, there are shortages in physics and mathematics. We have no data on school districts which did not teach courses because of secondary teacher shortages. In terms of our criterion (depth of preparation of subject teachers) we fail to find shortages in other subjects where they are believed to exist.

RECOMMENDATIONS

The list of variables involved in teacher satisfaction and school holding power contained here clearly indicates that no single simple solution exists to the problems of attracting and retaining teachers. Desires and satisfactions are often dependent on, among other factors, whether the teacher is a man or a woman, the grade level or subject taught, and the size, location and character of the district. Therefore, we make the following recommendations to the several parties at interest as possible steps to be taken to alleviate the teacher shortage in California.

a. Teacher Preparatory Institutions and Credential Regulations

- We recommend that college counselling be reevaluated in light of post-1961 Act college organization and the change of counselling time sequences imposed by its implementation, and with regard to the teaching shortage and the problem of providing information to the body of students undecided about their career choice. Contact should be established between Freshmen or Sophomores and Education Department advisors.* Information and advice about teaching provided through counselling services to the undecided student early in his college years could be of great benefit in giving this student increased exposure to and familiarity with teaching as a career choice for him.

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* This is being done in some TPI's.

- Widespread publicity should be given in the TPI's to the manner in which teachers' salaries are determined and to the finding that women's salaries in secondary schools are only slightly higher than in elementary schools.

- We recommend that TPI's more actively discourage students from entering overage areas (subject matter and geographical) and encourage students into shortage areas.

b. School Districts

- We recommend that schools and districts examine themselves for possibilities of improvement with regard to the significant variables related to salary, working conditions, and human relations cited above.

- We found that a major element (perhaps the most important) in the career choice of young people is their perception of the success and happiness of those whom they have personally observed in various occupations. If the conditions of teachers are improved by improving some of the variables described above, the satisfaction of today's teachers will be strengthened. This increased professional satisfaction will communicate itself to their pupils, who will be more likely to choose the teaching career for themselves. We recommend these improvements, therefore, because of their long term and short term effects.

- We recommend that school districts be encouraged, where teachers are needed, to set up partnership teaching programs; i.e., to hire two teachers who each wish to teach half time to fill one teaching vacancy. We recommend that amendment of regulations conflicting with this aim be considered.

- We recommend that school districts with shortages take more initiative in recruiting experienced teachers, as they do now in recruiting new teachers. An active attempt should be made year-round to recruit former teachers back into the field rather than relying heavily on unsolicited applications to fill experienced teaching vacancies.

- We recommend more training in the personnel profession for those responsible for personnel administration in districts.

c. State Department of Education

- We recommend the establishment of a professional personnel information or Registry system by the SDE and updated yearly. This would involve continuing data gathering and collation about teachers and teacher-prepared TPI graduates, particularly of teachers who leave the profession but who may return, if kept informed and interested. (See Interaction, below).

- We recommend that a study be undertaken to determine what constitutes appropriate necessary rather than merely desirable education for the elementary teacher. Since present elementary education requirements have decreased the TPI's output of elementary teachers, alternative requirements should be scientifically examined in terms of their effects on teaching competence and on the attractiveness of elementary teaching.

- We recommend that everything possible, consonant with maintaining the quality of California education, be done to enable qualified teachers trained outside California, to begin teaching there. Allowing the experienced teacher to move directly into the salary level commensurate with his or her years of training and teaching, giving retirement credit for out-of-state experience, maintaining salary schedules which induce teachers to complete full credential requirements, and maintenance and improvement of California salaries compared to those of other states, will encourage teachers from out of state to measure up to the high standards of California education, preferably before being hired, but at least within some specified period after beginning teaching in California.

- In line with the above, we recommend rescission of the 1966-67 escalation of the secondary partial fulfillment credential requiring six postgraduate units and fourteen units of work in a major field of upper division or graduate level.

d. Interaction Among the Parties at Interest

- We recommend that the SDE, the TPI's and the local school districts act together to perform the record keeping, information gathering, data formulation and recording tasks for a computerized Registry of California Teachers.

  The TPI's now notify the SDE of all students receiving certification. This information should be transmitted to the SDE and recorded by them in such a way as to allow the SDE to keep track of each individual student after certification, i.e., if and where the student accepts a teaching position.

The school districts should transmit to the SDE pertinent individual information about the teachers newly hired in the district and inform the SDE of a teacher's mailing address when he or she leaves the district. The SDE should then maintain complete records on the numbers of new teachers in the state, and where they were educated. They should also generate attrition analyses by type of district, grade level, sex and subject matter.

The SDE should provide addresses of possible returners to districts.

If such complete records are kept and periodically analyzed, they will provide the SDE, the school districts, and the TPI's with a valuable tool for identifying areas of high attrition, for forecasting possible shortage and overage areas, and for contacting possible returning teachers.

- We also recommend a reporting system to apprise each district superintendent, and through him the SDE, of the frequency of assignments of teachers for reasons of necessity, rather than for reason of the teacher's education, as an index of teacher shortages.

- We recommend the formation of regional councils made up of the parties at interest in the teacher supply problem. Discussion and dialogue may help to coordinate plans and programs to help solve the problem.

- In each college department we visited, there existed one, and sometimes more than one, subject matter faculty advisor who was knowledgeable about and oriented toward teacher education.

  We recommend that these specialists be formally identified and that the SDE establish regular communication with them -- as well as with the education faculty in general -- regarding areas of shortage (geographic, grade level, and subject matter) and overage.

- Finally, we recommend that due regard be taken of the heterogeneity of California education and that the interests of districts, TPI's, or teachers with unique problems be given adequate consideration in weighing and implementing recommendations.

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TABLE OF CONTENTS

Page

Summary i

Participants, Technical Contributors, and Acknowledgments xi

List of Tables xv

List of Figures xxiii

I. BACKGROUND 1

- A. THE PROBLEM 1
- B. THE STRUCTURE OF THIS STUDY 7

II. THE INPUT-OUTPUT MODEL 11

- A. USES OF MODELS 11
- B. CONCERN WITH INPUT AND OUTPUT 11

III. INPUT FACTORS 13

- A. CALIFORNIA TEACHER PREPARING INSTITUTIONS 13
- B. OUT-OF-STATE TEACHER PREPARING INSTITUTIONS 61
- C. EFFECT OF CALIFORNIA STATE CREDENTIAL REQUIREMENTS 63
- D. DISTRICT CHARACTERISTICS AND POLICIES 80
- E. MOTIVATIONS TO ENTER TEACHING 94
- F. "RETURNERS" TO TEACHING 99
- G. INVENTORY - ELEMENTARY AND SECONDARY 102
- H. SUMMARY OF SECTIONS B. THROUGH G. OF THIS CHAPTER 128

IV. DEMAND PROJECTIONS 131

- A. HOW PROJECTIONS ARE MADE 131
- B. PROJECTIONS 132
- C. REASONS FOR INCREASES IN NUMBER OF TEACHERS 132

Page

V. OUTPUT 137

A. ATTRITION STATISTICS 137

B. CHARACTERISTICS BEARING ON ATTRITION 147

C. DESTINATIONS FOR THOSE LEAVING TEACHING 168

D. SIGNIFICANT INFLUENCES ON ATTRITION IN SCHOOLS 171

VI. NATURAL TRENDS IN SUPPLY AND DEMAND 181

A. ASSUMPTIONS AND VALIDITY 181

B. ATTRITION AND LOSS RATES 182

C. DEMAND 184

D. INPUT 184

E. RECONCILIATION OF REQUIREMENTS AND ESTIMATED SUPPLY SOURCES 190

VII. COLLATION AND TRANSMISSION OF INFORMATION 195

A. INTRODUCTION 195

B. PRESENT TEACHER RECRUITMENT MECHANISMS 195

C. PRESENT TEACHER EMPLOYMENT MECHANISM 195

D. STRENGTHENING THE SCHOOL DISTRICT PROFESSIONAL PERSONNEL FUNCTION 196

E. STRENGTHENING THE DEPARTMENT OF EDUCATION PERSONNEL INFORMATION AND TRANSMISSION FUNCTION 197

F. STRENGTHENING CAREER COUNSELING AND INFORMATION GATHERING IN THE TPI'S 200

G. HELPING OUT-OF-STATE RECRUITMENT 201

APPENDIX

A REPRESENTATIVENESS OF SAMPLING A-1

B CHOICE OF STUDENTS AND FACULTY IN THE CAREER CHOICE SUBSTUDY B-1

C CONTINGENCY TABLES FOR VARIABLES SIGNIFICANTLY RELATED TO ATTRITION IN SCHOOLS C-1

LIST OF TABLES

Table No.		Page
1	Reported and Projected Student Enrollment in Kindergarten and Grades 1-12 California Public Schools, 1950 to 1980	2
2	Projected Student Enrollment in Grades 1-8 California Public Schools, 1966-1980	3
3	Types of Institutions, Students and Faculty as a Framework for Organizing the Data Obtained in Substudy VI	14
4	Responses of College Students Concerning the Relative Prestige of Secondary School Teaching Compared to Elementary School Teaching	21
5	Responses of College Students Concerning the Relative Prestige of Secondary Teaching Compared to School Administration or Supervision	21
6	Responses of College Students Concerning the Relative Prestige of Elementary Teaching Compared to School Administration or Supervision	21
7	Percentage of Students Who Feel That Elementary and Secondary Teaching Has More Prestige than Various Other Occupations	23
8	Percentage of Students Who Feel That Elementary and Secondary Teaching Has Same Prestige As Various Other Occupations	24
9	Losses to Other Careers	25
10	Reasons Given for Loss to Other Careers, If Any, by California TPI's	25
11	Shift in Enrollments	32
12	Reasons for Shift to Secondary, If Any, Given by California TPI's	32
13	Career Counseling Given to Students to Teach at the Elementary Level	43
14	How Are Certification Requirements Communicated?	44

LIST OF TABLES (Continued)

Table No.		Page
15	Existing Interdepartmental Majors at California State Colleges	46
16	Institution of Higher Education from Which Received Bachelor's Degree	51
17	Number of Years Teaching and Source of Bachelor's Degree	52
18	California Enrollment History in Teacher Preparing Institutions	53
19	Number of Students Completing Certificate Requirements	54
20	Projected Elementary and Secondary Education Enrollments	55
21	Reported Significant Changes in Teacher Preparatory Program Since 1961, Ranked by Frequency of Occurrence	57
22	Non-California Graduates to California	62
23	Status During Previous School Year of Full-Time Certificated Teachers, New to a District, by Grade Levels and Experience	62
24	General Types of Teacher Credentials in California Suggested for Categories on Questionnaires for this Study	64
25	Elementary School Teacher Certification Requirements, Actual and Perceived at the Time	65
26	California Only: Types of Difficulties in Meeting New Certification Requirements	66
27	Responses to the 1961 and 1965 Certification Acts	68
28	Judgments of Superintendents	76
29	Percentage of Teachers Signing Contracts for First Time in a District, by Credential Type and Grade Level	77
30	Year When Fisher Act Requirements Incorporated in Curriculum	79

LIST OF TABLES (Continued)

Table No.		Page
31	Class First Required to Satisfy Fisher Act Requirements	79
32	Specialized Training Required of District Personnel Administration Staff	83
33	Percent of Districts Reporting Starting Salaries With Given Ranges	84
34	Percent of Districts Reporting Given Differences in Thousands of Dollars Between Starting and Top Salary	85
35	Frequency of Responses to Given Categories Governing Assignment of Teachers, by Grade Levels and Relative Time in District	86
36	Status During Previous School Year of Full-Time Certificated Teachers, New to a District, by Grade Levels and Experience	88
37	Percentage of Responses to Given Categories as Primary Recruiting Sources for Experienced and Inexperienced Teachers, by Grade Levels	89
38	Percentage of Districts Indicating Given Categories of Applicant/Vacancy Ratios for the School Year September 1964-September 1965, by Grade Levels	90
39	Ratio of Applicants to Vacancies by Region	91
40	Reasons that Influenced to Take First and Present Teaching Position	93
41	Kinds of People or Reasons that Influenced Original Decision to Teach	94
42	Percents Indicating Comparison of Teaching with Other Feasible Careers On Various Objectives	96
43	Percents Indicating Comparison of Teaching with Other Feasible Careers On Various Objectives	98
44	Gaps in Teaching Career	100

LIST OF TABLES (Continued)

Table No.		Page
45	Marital Status	101
46	Age of Youngest Child	101
47	Grades Taught	103
48	Subjects Taught	104
49	Selected Subjects Taught and Percent of Teachers Who Indicated Percent of Time Spent Teaching Subjects in Which Adequately Formally Trained	106
50	Selected Subjects Taught, College Majors and Minors, 7-12 Teachers	108
51	Subject Matter Taught and Percent Indicating Long Range Plans	109
52	Subject Matter and Percent Indicating Different Subjects Taught	111
53	Subject Matter Taught and Percent Indicating Hours Weekly Planning Lessons	113
54	Subject Matter Taught and Salary Distribution, in Percents, All Teachers	114
55	Subject Matter Taught and Salary Distribution, in Percents, Male Teachers	115
56	Subject Matter Taught and Salary Distribution, in Percents, Female Teachers	116
57	Credentials - Held and Teaching Under This Year	117
58	Credentials - Provisional and Partial Fulfillment	119
59	Subject Closest to College Major and Minor	120
60	Percent Indicating Highest Degree Attained	121
61	Percents Indicating Subjects in Which Have Some Post-BA/BS Credits and Masters	122
62	Birth Date Percentage Distribution	123

LIST OF TABLES (Continued)

Table No.		Page
63	Percent Distribution of First Year in Which Taught	124
64	Percent Distribution of When Received Bachelor's Degree and First California Credential	125
65	Percentage Distribution of Annual Salary for the Current September-June School Year. Includes Money Received for Coaching	127
66	Enrollment and Teacher Demand	133
67	Percentage of Principals Reporting Given Termination/Employment Ratios by Sex and Grade Levels for School Years Beginning September 1964 and September 1965	139
68	Percent Indicating Plans 2-3 Years From Now	141
69	Percent Indicating Long Range Plans	142
70	Sex of Leaver and Reason for Leaving	144
71	Ratio of Terminations to Teachers Employed in Districts, by Sex and Grade Level	145
72	Years Teaching and Percent Indicating Long Range Plans	146
73	Percent Indicating Number of School Districts Where Held Positions	148
74	Teaching Experience and Formal Training	150
75	Percentages Indicating Percent of Time Teaching Subjects	150
76	Adequacy of Training and Short Range Plans	152
77	Adequacy of Training and Long Range Plans	154
78	Percent Indicating Average Size of Classes Taught	155
79	Percent Indicating Hours Per Week Spent in Evaluating Papers and Planning Lessons	155

LIST OF TABLES (Continued)

Table No.		Page
80	Percent Indicating Hours Per Week Spent In Unpaid Extra-Curricular Activities, and Professional Non-Classroom Activities	156
81	Percent Indicating Number of Class Periods Taught, Preparation Periods, Different Subjects Taught	156
82	Salary and Long Range Plans. Male Teachers	158
83	Percent Indicating Reasons for Having Left Most Recent California Teaching Position	159
84	Percent Indicating Aspects of School and District That Definitiely Contribute to Satisfaction and Make Teacher Wish to Stay There	161
85	Percents Indicating Two Changes Which Would Do Most to Keep Teachers in Present Positions	164
86	Salary and Choosing Ten Percent Salary Increase or Paid Fringe Benefits as Most Attractive Incentive	166
87	Percent Distribution of Beginning Years for Out-Of-State Teachers in California	167
88	Percent Indicating Reasons Acquaintance Left Teaching, by Grade Level of Current Teacher	169
89	Percent Indicating Reasons Acquaintance Left Teaching, by Sex of Leaver	169
90	Percentage Distribution of Attrition Rates by Grade, Sex, and Size of District	173
91	Variables Related to School Attrition Rates	174
92	Variables Not Related to School Attrition Rates	180
93	Attrition and Loss Destinations	183
94	Computation of Loss Rates, by Level and Sex	183
95	Estimated Annual Teacher Requirements	185

LIST OF TABLES (Continued)

Table No.		Page
96	Estimating California TPI's Annual Number of Credentialled Graduates Entering Teaching in California Schools	187
97	Estimates of TPI Inputs	188
98	Estimates of TPI Inputs, Assuming 60% of California TPI Education Graduates Enter Elementary Education	188
99	Reconciliation of Teacher Requirements and Supply (In Thousands) from Some Sources	191
100	Reconciliation of Teacher Requirements and Supply (In Thousands) from Some Sources Assuming 60% of California TPI Education Graduates Enter Elementary Education	192

LIST OF FIGURES

Figure No.		Page
1	California State Statistical Areas	81
2	Terminations by Category for School Years Beginning September 1964 and September 1965	138

I. BACKGROUND

A. THE PROBLEM

1. Demand

It has long been well recognized that the number of school-age children in the State of California increases every year. Aware of this, California cannot be content to keep a quantitatively static corps of school administrators and teachers. Its 1400 or so school districts must continually add teachers to keep up with the increase in the number of school children brought about by in-migration and the birthrate; further, the pupil-teacher ratio is being gradually reduced, requiring additional teachers. The next ten years will be no exception. The projections, shown in Tables 1 and 2, put out by the California State Department of Finance show that the number of school-age children will continue to increase in the 1965-1975 time frame, although at a slower rate than heretofore.

2. Supply

a. New Teachers Graduating

The 1965 edition of an annual study* carried out by the California State Department of Education on California teacher supply and demand showed that supply would fall considerably behind demand in the 1965-1975 time period. This study and a memorandum** showed that the number of prospective elementary teachers (identified as students in the California teacher preparatory institutions who had completed student teaching) was 29% less in 1965-66 than it had been in the previous year. It further showed differences from previous years in the proportions of graduating teachers who desire to teach in elementary and those who desire to teach in secondary schools. Extrapolating these data, the report indicated a severe teacher shortage particularly in the elementary level for the next ten years.

Considerable discussion ensued out of this report. Among the factors named as contributing to the perceived decline of total numbers of credentialled graduates from California teacher preparing institutions

---

* Hurd, Blair, California's Need for Teachers 1965-75, State Department of Education, Sacramento, California, 1965.

** Rafferty, Max, to [California] State Board of Education, subject: Teacher Supply and Demand, January 6, 1966.

TABLE 1

REPORTED AND PROJECTED STUDENT ENROLLMENT IN KINDERGARTEN AND GRADES 1-12 CALIFORNIA PUBLIC SCHOOLS, 1950 to 1980

Fall	Total	Kindergarten	Grades 1-8	Grades 9-12
Reported:				
1950	1,661,051	137,153	1,150,935	372,963
1951	1,806,598	185,427	1,230,264	390,907
1952	1,932,035	178,029	1,337,548	416,458
1953	2,097,229	212,809	1,434,008	450,412
1954	2,248,527	225,072	1,539,429	484,026
1955	2,411,834	232,474	1,659,188	520,172
1956	2,593,907	251,295	1,769,791	572,821
1957	2,779,308	270,091	1,874,685	634,532
1958	2,944,168	284,068	1,973,572	686,528
1959	3,137,233	301,515	2,106,051	729,667
1960	3,304,485	310,705	2,208,536	785,244
1961	3,472,046	327,889	2,293,214	850,943
1962	3,651,996	336,421	2,383,701	931,874
1963	3,837,897	343,458	2,480,123	1,014,316
1964	3,991,595	354,972	2,573,394	1,063,229
1965	4,121,442	364,816	2,646,113	1,110,513
Projected:				
1966	4,247,000	374,400	2,719,000	1,155,900
1967	4,368,500	372,100	2,793,200	1,203,200
1968	4,482,700	374,600	2,850,400	1,257,700
1969	4,580,200	370,000	2,905,800	1,304,400
1970	4,654,700	361,300	2,941,200	1,352,200
1971	4,723,200	366,500	2,958,400	1,398,400
1972	4,799,100	386,500	2,978,700	1,433,900
1973	4,887,800	404,700	3,010,300	1,472,800
1974	4,975,700	419,100	3,049,900	1,506,800
1975	5,067,700	433,800	3,092,900	1,541,000
1976	5,170,100	448,900	3,151,800	1,569,400
1977	5,275,500	463,100	3,221,800	1,590,600
1978	5,383,000	476,400	3,310,000	1,596,600
1979	5,492,600	488,700	3,420,200	1,583,700
1980	5,615,300	500,000	3,538,500	1,576,800

Sum of parts may not equal totals because of independent rounding.

Source: California Department of Finance, September 1966.

TABLE 2

PROJECTED STUDENT ENROLLMENT IN GRADES 1-8
CALIFORNIA PUBLIC SCHOOLS, 1966-1980

Fall	Total	Grades:							
		1	2	3	4	5	6	7	8
1966	2,719,000	375,400	354,700	345,500	342,200	335,500	323,300	327,300	316,600
1967	2,793,200	384,900	364,100	354,200	344,800	344,900	338,200	332,200	330,000
1968	2,850,400	382,100	373,300	363,600	353,500	347,600	347,800	347,500	335,000
1969	2,905,800	384,300	370,700	372,800	363,100	356,500	350,600	357,400	350,500
1970	2,941,200	379,300	372,800	370,100	372,400	366,200	359,600	360,200	360,600
1971	2,958,400	370,000	367,900	372,200	370,100	375,700	369,500	369,400	363,500
1972	2,978,700	374,900	358,900	367,300	372,400	373,500	379,200	379,600	372,900
1973	3,010,300	395,000	363,700	358,300	367,700	375,900	377,000	389,600	383,200
1974	3,049,900	413,200	383,200	363,100	359,000	371,200	379,500	387,300	393,300
1975	3,092,900	427,500	400,800	382,600	363,500	362,600	374,900	389,900	391,100
1976	3,151,800	442,000	414,700	400,200	382,800	366,700	366,400	385,300	393,700
1977	3,221,800	457,000	428,700	414,000	400,200	385,800	370,400	376,500	389,100
1978	3,310,000	471,000	443,300	428,100	414,000	403,200	389,500	380,600	380,300
1979	3,420,200	484,000	456,900	442,600	428,100	417,200	406,800	400,200	384,400
1980	3,538,500	496,000	469,500	456,200	442,600	431,300	420,700	418,000	404,200

Sum of parts may not equal totals because of independent rounding.

Source: California Department of Finance, September 1966.

(TPI's), rise in the proportion of graduates going into secondary teaching, and decline in the numbers of out-of-state teachers being attracted to California, was the Certification Act of 1961.

b. The Certification Act and Other Possible Effects Upon Supply

The Act was passed by the California State Legislature to take effect on January 1, 1964.* It changed considerably the requirements for credentialling of elementary teachers, eliminating credentialling for those majoring in education. Majors were limited to academic subjects, i.e., natural sciences, social sciences, humanities, mathematics, and fine arts, but did not include subjects which seemed primarily oriented toward application, such as agriculture, physical education, home economics, education, etc. It also required a course "in the theory of the structure, arithmetic, and algebra of the real number system or three semester hours of course work in calculus." The Act intended to insure that elementary teachers would be liberally educated, adding the liberal education requirements to those for courses in education methods, foundations of education, and student teaching, and resulted in a five-year course requirement necessary for the receipt of credentials.

Interpretative regulation changes were later passed by the State Board of Education. The most important of these specified that the fifth college year might be postponed and completed over a period of five years after the beginning of teaching for secondary school teachers and seven for elementary teachers. Teachers who completed four years of college and some of the specific credentialling requirements were granted a regular standard teaching credential.

If an employing school district certified to the need for a teacher, he or she might be granted a provisional credential on the basis of 90 semester hours (for elementary teachers) or a bachelor's degree (for secondary school and junior college teachers).

Some felt that "misunderstanding, misconception and bias about the new requirements"** were diminishing the number of college students preparing for elementary teaching. Others felt a more permanent effect: elementary teaching was being made less attractive compared to other careers because its requirements had been made equal to those for secondary teaching and greater than those for many other careers, for which a bachelors' degree is sufficient. At the same time, elementary teaching was still perceived by many as having lower salary and lower prestige than secondary teaching, and was considered in some cases to be harder work.

---

* Stone, James C. The Future of Teacher Education: Implications for the Role of State Departments of Education, The Seattle Conference, April 27-29, 1966, State Department of Public Instruction, Olympia, Washington.

** Max Rafferty, op. cit.

Further hypotheses put forward to account for the teacher shortage were: the increased competition from other occupations, salaries for teaching, lack of availability of post-bachelor's courses for teachers, the prevalence of discipline problems in schools, financial incentives by legislation to encourage lowering of pupil-teacher ratios in the primary grades, special purpose grants from the federal government to aid deprived and disadvantaged areas, growing demands for special education teachers, the legislation mandating rather low pupil-teacher ratios in deprived areas, and many others.

Shortages in the state of California must be viewed in the context of United States and even Canadian shortages of teachers in Fall 1966. The state of California is the only one known to have been foresighted enough to take action before the beginning of the 1966-67 academic year to study in detail the reasons for the shortage and ways of alleviating it. The following quote from Education Summary, November 1, 1966 shows something of the extent and reasons for the nation-wide shortage.

> "The worst teacher shortage in a decade threatened the nation's schools when they opened this fall. Schoolmen were caught short by the unexpected reversal in the trend: The teacher shortage had been becoming steadily less severe in recent years.
>
> Philadelphia was short 1000 teachers. Los Angeles advertised on the East coast in an attempt to fill 800 vacancies. Missouri's shortage of 1600 was the largest in its history. New York State was short a whopping 12,000 fully certified teachers. New Jersey was shy 1000. Ohio had to find 2000. North Carolina resorted to part-timers to fill 1800 teaching stations.
>
> Among the reasons for the new shortage: competition for trained teachers from federally supported programs; competition from industry; fear of the draft, which is inducing many college graduates to go on to graduate schools; the draft itself; growing junior colleges, which often hire high school teachers.
>
> A spokesman for the U.S. Office of Education advanced a definite opinion: low salaries. (National average for teachers: $6011.) He estimated that one million trained teachers were not in the classroom because they could earn more other places."

It was further recognized that one of the factors affecting supply was the attrition rate of teachers.

3. Supply-Demand Reconciliation

The available data indicated a considerable discrepancy between projected supply and demand for the 1965-75 period. The Dr. Rafferty memorandum, after taking into account the number of teachers graduating from California schools going into California teaching and teachers returning to the profession after absences, estimated that 65,330 teachers, or 31% of the required number of new teachers, would have to come from out-of-state or from those persons with less than standard preparation.

4. Request for a Comprehensive Study of Supply and Demand

In order to gain some quantitative information on shortage trends, on which problems were contributing, and how much, to the teacher shortage and to what extent any of these problems could be alleviated, the State Board of Education set up a Committee on Teacher Supply and Demand. This Committee brought in Arthur D. Little, Inc., as a research consultant to help provide information for policy decisions on the part of the State Board of Education for steps to evaluate and relieve the shortage.

The members of this committee, with whom it was the privilege of the ADL case team to work closely during the course of this study, are as follows, with their institutional affiliations:

Dr. Richard M. Clowes, Chairman	Superintendent, Burbank Unified School District
Mrs. Talcott Bates	Member, State Board of Education
Mr. William Brown	Associate Superintendent, Los Angeles Unified School District
Dr. Kenneth R. Doane	Dean, California State College, Fullerton
Dr. Mary Ellen Dolcini	Principal, Emerson Junior High School, Davis
Mr. Louis H. Heilbron	Trustee, California State Colleges
Dr. Joel H. Hildebrand	Professor of Chemistry, Emeritus, University of California, Berkeley
Mr. Miles Myers	Teacher, Oakland High School

California state officials accredited to the committee were:

Dr. Blair Hurd Dr. Carl Larson	Bureau of Teacher Education and Certification, State Department of Education

B. THE STRUCTURE OF THIS STUDY

The study was divided, on the basis of the Request for Proposal (RFP) into six substudies. By dividing up the information to be gathered in this way, we felt that each task could be defined more explicitly, the analysis could become more succinct, and the integration of the information gathered from all substudies would be improved. A brief description of each substudy follows.

1. Substudy I, Background Interviews

a. Purpose

This study discussed the problem with knowledgeable people, namely, teachers and faculty members familiar with institutional factors and how college students were choosing their careers. This was done, as a preliminary study, in order to sharpen concepts and gather insights and hypotheses, most of which were to be tested, if possible, quantitatively, in later substudies.

b. Sampling Design

Twenty-three K-12 teachers were interviewed. They were distributed geographically, by sex, by elementary versus secondary levels, and by years of experience. Choice of individual teachers was mostly adventitious. Many names were suggested by members of the Committee on Teacher Supply and Demand (henceforth referred to as the Committee); some were suggested by other teachers interviewed; some were acquaintances of the interviewers.

Approximately 25 college faculty members and placement officers were interviewed in this substudy. Most of these were suggested by members of the Committee. They were distributed over California academic institutions and subject matter areas.

2. Substudy II, Teacher Surveys

a. Purpose

These surveys were intended to find out why teachers had entered teaching, what their educational backgrounds were, which subjects they were teaching, under what conditions they were teaching, and what satisfactions and dissatisfactions, respectively, were likely to keep them in or drive them away from teaching. These surveys also provided our only feasible avenue for finding out why teachers have left the profession: present teachers were asked about friends or acquaintances who had left, and why.

b. Sampling Design

The sampling designs for Substudies II and III were the same. Ten percent of California's 1400 or so school districts were chosen by a random stratified method which assured that our sample would contain proper numbers of large and small school districts, unified and non-unified school districts, and elementary and secondary school districts. After the sample was chosen, examination of its characteristics showed that they paralleled that of the population. (See Appendix A) Within each of the 142 sampled districts, every other teacher, chosen randomly, filled out the teacher survey. Thus, our sample included 5% of the teachers in California.

c. Number of Returns

Eight thousand questionnaires were sent out. About 4800 usable returns were received in time for the first analyses. About 5200 usable returns were returned in time to be used in the attrition ratio analyses and other later analyses.

3. Substudy III, Principal and Superintendent Surveys

a. Purpose

These surveys, sent to superintendents and principals in the 142 chosen districts, were intended to find out the annual attrition rates of teachers in those districts, district policies, administration's perceptions of teachers' reasons for leaving, and some socio-economic characteristics of the districts and the communities surrounding the schools.

Since we were able to identify which teachers', principals', and superintendents' questionnaires came from which school and district, we were able to relate the responses and attitudes of teachers to the attrition in the district. This constituted a primary purpose of the study.

b. Sampling Design

The sampling design was the same as that for Substudy II.

c. Number of Returns

Eighty one districts returned their surveys in usable form, in time for all analyses. The survey of one very large district was received in time to be used in some later analyses. Many of the smaller districts, where the principal and superintendent were the same person, did not return superintendent surveys. About 370 elementary and 170 secondary school principals returned surveys, or 540, out of a possible 670. Appendix A shows how the superintendent surveys returned over-represented large districts.

4. Substudy IV, Teacher Preparing Institutions (TPI's) Survey

a. Purpose

These surveys were intended to gain information on the numerical pattern of graduates in teaching, and proportions of these graduates that went into California teaching, of both California teacher preparatory institutions and out-of-state TPI's that typically provided many of their graduates to California school districts.

b. Sampling Design

All 49 California accredited TPI's were sent surveys. In addition, 59 out-of-state TPI's identified by Dr. Blair Hurd, of the State Department of Education, Bureau of Teacher Education and Certification, as furnishing significant numbers of students to California school districts were sent questionnaires.

c. Number of Returns

Seventy three percent of California and 52% of out-of-state TPI's returned usable questionnaires in time for analysis.

5. Substudy V, Demand Projections

Mr. Joseph Freitas of the California State Department of

Finance described in detail how their projections are made and forwarded current projections.

6. Substudy VI, Career Choice Interviews

a. Purpose

These interviews were held to determine how college students in California are deciding about their careers, especially the teaching career. Comparisons of perceptions about teaching and other careers were made.

b. Sampling Design

At three state colleges, one university, and two junior colleges*in California, faculty members and advisors in each of the following areas were interviewed:

(1) Elementary education

(2) Mathematics

(3) English

(4) Natural sciences

(5) Physical sciences

In addition, in each junior college, we interviewed two panels of freshmen and two of sophomores. In each four-year college, we interviewed two panels of sophomores and two of seniors and fifth year credential candidates. Each panel consisted of about five members. One hundred and twenty three students were interviewed. The colleges were chosen in concert with the Committee to provide a range in type of school and geographic area. Appendix B contains a letter to a college showing how panelists were chosen.

---

* Chico State College, San Fernando Valley State College, San Diego State College, University of California, Los Angeles, Modesto Community College and Sacramento City College.

II. THE INPUT-OUTPUT MODEL

A. USES OF MODELS

In studying a complex set of phenomena, especially in the social sciences, it is worthwhile to precede analysis with the development of a model -- that is, a concept of the interrelationships existing in the area under study. Such a concept, which chooses what are believed to be the more significant phenomena and focuses upon finding relationships among them, contributes markedly to the efficiency of analysis. The model to be used in this study is described below.

B. CONCERN WITH INPUT AND OUTPUT

Our model will take demand (a function of the number of school age children) as given. It will concentrate upon the supply of teachers, and variables which affect supply. These are, in summary terms, input and output variables.

Input variables relate to the number of beginning teachers in California each year. They come from three sources:

1. California Teacher Preparing Institutions (TPI's)
2. Out-of-state Teacher Preparing Institutions
3. Returners to teaching

These are affected by a number of considerations:

1. Credentialling requirements
2. College students' motivations about career choice
3. District policies and characteristics
4. Institutional factors

It is convenient to consider these sources and motivations relating to input separately from destinations and motivations accounting for output.

Teachers leave for a variety of destinations:

1. To administration
2. To other districts

    - a. In California
    - b. Outside California
3. To other grade levels
4. To homemaker status
5. To federal education programs
6. To non-teaching occupations

They leave for a wide variety of reasons related to their satisfaction with their work. Among the many characteristics of the teachers and their districts which affect the attrition ratio are the following:

1. Sex
2. Grade level
3. Region
4. Subject matter
5. Size of district

We shall keep both input and output factors in mind in trying to forecast the supply of teachers in California and how it can be affected by various possible administrative or regulatory steps.

III. INPUT FACTORS

A. CALIFORNIA TEACHER PREPARING INSTITUTIONS

1. Institutions and Organization

The system* that educates teachers, does the teaching and employs teachers, is decentralized and diffuse. It includes colleges and universities, private and public, and their Boards, the State Board of Education and Department of Education, county offices and Boards, local school districts, and their organizations. There is no central management of the system, nor has anyone suggested that there should be.

There is great autonomy of parts and sub-parts. Teachers can legally change their positions. Each college and its faculties has great independence.

Thus, changes are apt to occur after much thought and dialogue. Examples of the development of changes affecting teacher supply which involved the participation of several parties are these:

> Interdepartmental courses of study are being developed by California State College (CSC) faculties and approved by the CSC Chancellor's office.
>
> In 1964, the CSC Chancellor's office requested that the position of Associate Dean be created, to be concerned with teacher training matters. Funds were provided by the legislature in 1966.
>
> Shortages of teachers in Southern California has been the subject of meetings between CSC's and local school districts over the past two years.

2. Differences of Atmosphere and Teacher Types

The schema shown in Table 3, next page, provides a conceptual framework for the material developed in Substudy VI, the Career Choice Interviews. We interviewed students and faculty who interact to provide teachers to the California school districts. The nature of the institution has an important bearing on the information, advice, and influence that it disseminates to the people concerned in this process.

---

* A system is a complex of people, groups (and sometimes machines) which interact with one another to produce a result, affecting each other in the process.

TABLE 3

TYPES OF INSTITUTIONS, STUDENTS AND FACULTY AS A FRAMEWORK FOR ORGANIZING THE DATA OBTAINED IN SUBSTUDY VI

INSTITUTIONS

A. Universities

B. S.F. State

C. Chico (Upwards striving, residential, statewide)
San Diego (Midwest normal, local)
San Fernando (Commuter college, regional)

D. Junior Colleges
Teacher Oriented
Agricultural or Urban

STUDENTS

A. Those Who Became Teachers

1. Young girl, social problem-whole child-oriented, destined for elementary teaching from age 8.

2. Young men, identified with teenagers, YMCA, Boy Scouts, coaching, industrial arts.

3. Subject matter oriented (men and women) with mastery of subject matter, influenced by own high school teachers (often an English teacher) or by parents or teachers who are friends of parents.

4. Dedicated to social problem areas or special education (men and women) or private schools.

5. Women looking for a convenient career ancillary to a family role.

B. Uncertain

1. Other first choice, but need a fallback
2. Uncertain
3. Two-prong goals (and means to an end)

C. Those Decided on Other Occupation

FACULTY

A. Education Faculty

1. Joint Appointment
2. Elementary Education

B. Liberal Arts Faculty

1. On other campus would be in Education
2. Teaching Oriented
3. Research Oriented (Writing oriented in such subjects as English)

The institutions fall into three main groupings. These are:

a. The university and those state colleges resembling the university.

b. The state college system of four year liberal arts colleges.

c. The junior college institutions.

Although this is not a systematic comparison of the institutions, we will comment on those characteristics which were either reported to us or which we observed as being pertinent to the problem of teacher supply and demand and career choice.

The university and perhaps such state colleges as San Francisco, because of its urban location, are somewhat less concerned with preparation of teachers than the rest of the colleges. This is not to say that the part of the university which is concerned is less concerned, but rather that it makes up a smaller percentage of the total institution. The research nature and mission of the university is the most obvious manifestation of this difference. In addition, the graduate school emphasis has a great bearing on the level of intellectual attainment, as well as number of teachers educated.

The state colleges, being diverse, must be differentiated. One seemed to have a state-wide representative student body, and was therefore more oriented to on-campus residential living than the others. Its students appeared, at least on the surface, to be an upward striving group. Another four-year college was described to us as an extension of a mid-west normal school with its tradition of preparing teachers. It had mostly local resident students and provided teachers, and other occupational training for local industry. Another college was described as a commuter community. The men students said they travelled forty miles for a date. This campus seemed regional in nature: it looked to a wider area for its students and the students looked to the region for occupational opportunity.

All these characteristics have a decided effect on the advising system and the faculty-student dialogue. At one extreme one college had no formal advising system; students had an "open choice". This could mean access to a number of good professors if the student took the initiative, or, it could mean merely talking with secretaries who were knowledgeable. The commuter college obviously had less student-faculty contact, simply on the grounds that time was not available. Alienation from the campus and the faculty was reported. Under these circumstances one would not expect as much career guidance, of any nature. to occur.

The junior colleges presented yet another experience and situation. They were often reflections of the communities they serve. In one instance, the community was both urban and agricultural; the agricultural community was described as being anti-education, with vignettes to support this observation. Most of the successful career recruiting for teaching was done with students from a non-agricultural background. In this case, we understand, the faculty had a real orientation to the encouragement of students into teaching. Another junior college (which we did not visit) was reported to provide encouragement to potential teacher candidates. Liaison between the state college and junior college campuses was reported to have an important positive effect on teacher candidate supply.

Turning to the second column of Table 3, the students seem to fall into three main categories:

a. Those who become teachers and are somehow destined to do so.

b. Those who never consider and do not in fact become teachers.

c. The uncertain group.

Among those who become teachers we have identified five distinct types that came to our attention. This is not to suggest that the list is exhaustive. In fact, it well may be a dangerous exercise to categorize students, but recognizing the dangers, it does throw light on the problem at hand.

1. There is the typical young lady who is oriented to the education of the whole child, or often to social problems, perhaps social work. She typically tells us that she has always wanted to be an elementary teacher; she just loves little children. She has had good experience with young children earlier in her life.

2. There is the young man who identifies with teenagers and has been active in YMCA, Boy Scouts, coaching, or industrial art activities with teenagers over the past few years. He too, has a service orientation and seems destined to be a teacher from at least the freshman year in high school.

3. A number of young men and ladies are oriented to subject matter teaching. This is reenforced by their mastery of the subject matter in college, influenced greatly by their own high school or junior college teachers. Quite often this influence is an English or history teacher. Frequently, but not as often as the above situation, these men and women have been influenced by their own parents or by teachers who were close friends of their parents. The encouraging

and positive aspects of teaching have long been known to these students.

4. There are a number of men and women who seem very dedicated to the solving of social problems. Teaching appears to them to be a way of helping society. Today this also takes the form of interest in special education. These people may be either interested in the younger child or in the subject matter or some combination of both. The differentiating factor is their drive to solve social problems rather than, as in number 2 above, identification with the students to be taught.

   There is a sub-category that may fit either 3 or 4 above. That is the person who is oriented to teaching in private schools, either for the positive reason of relatively more academic or curriculum freedom, or in order to minimize the growing discipline and parent interference problems perceived in the public schools.

5. Many young women are looking for a convenient career ancillary to the family career role. They have actively selected teaching as the most creative and challenging role for them to pursue. They look at it as the best opportunity both premarriage and after their children have grown up. They perceive the advantages of school teaching in terms of three-month vacations, intellectual stimulation (though not too much) and the conveniences associated with a location near their home.

   There were, of course, a group of students who never would choose teaching as a career. Some of these are oriented toward business, sometimes as a goal in itself, and sometimes associated with the higher aspirations and salary levels perceived. Sometimes these people were research oriented, or dedicated to teaching at a college or university level. Engineers and similar technically oriented people wold also be grouped in the "never" category.

There are many types of people included in the marginal or uncertain category. The majority of these people are included in the following groups:

1. There is another career as first choice, but the person needs a "fall-back" career. Often a pre-medical or pre-dental student, uncertain about his chances for admittance to the professional school, would choose teaching as an acceptable second career choice.

2. Also there are the people with two goals: teaching before entering their second career. Often the first career is a means of entry to the second. For instance, a biologist may contemplate teaching before going on to obtain a Ph.D.

3. By far the greatest number in this group are just uncertain of what they want to do, what they can do, and what their level of aspiration can be.

4. Another group expresses its need not to make a final career decision until later in life.

3. Effects on Career Choice

a. Teaching vs. Other Occupations

(1) What are the reasons for changes to career choices out of teaching?*

The shortage of mathematics majors (documented in Chapter III) for teaching careers was most often singled out by faculty members for discussion. Mathematics along with science, often has the highest unit requirement for graduation. Any student meeting the higher minimum is apt to have an intense, perhaps a research-oriented, interest in the subject rather than in teaching. Prestige and salary often are influences toward other career choices. It was suggested that subject matter faculty tend to reinforce this situation in advising students.

The new CSC policy establishing a maximum 45-unit major may help mitigate the bias against teacher preparation in mathematics and science.

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* Questions from the Request For Proposal for this study are underlined.

(2) Information from Student Interviews

(a) Factors Pushing Away from Teaching

One factor pushing students away from teaching is a real dedication to another career area. At some point, generally during the high school or college years, students who may have been considering teaching discover a real aptitude for or excitement in another area -- and generally go on to pursue it.

College students, particularly senior men, who are very salary conscious when considering career choices, express great dissatisfaction with the salary scales of teachers. They are not so concerned with the teaching starting salary, which in many cases, is equal to or slightly above the starting salary of competitive careers, but with the fact that teachers reach what they consider to be the very low ceiling of salary advancement within a period of sometimes less than 10 years.

We found many students, especially those who had some family member or close friend who taught and were therefore quite knowledgeable about particular teaching situations, who had an aversion to teaching based on what they perceived as crushing work loads and large overtime assignments. They cited teachers having to spend hours during the day on clerical work, also special supervisory activities -- playground, cafeteria, school clubs and social events, extra work with PTA and faculty groups, as well as many hours spent at home reading and grading papers.

One young man, whose parents had wanted him to teach but who was planning another career, said that his mother, who had taught high school for nearly 20 years, had, for many years, been required to teach six periods a day. At the same time she had supervised the school newspaper and had other extracurricular duties.

A number of students, both teacher candidates and those who had decided against teaching, expressed great concern with teachers' lack of freedom in curriculum choice, political and social pressure groups, and administrative policy restrictive to or non-cooperative with the teacher. Although these concerns were cited to us in a few instances in the northern and central part of the State, the majority of such complaints came from interviewees in the Southern California area. In one Southern California college over 60 percent of the students interviewed voiced fear about such pressures and restrictions. Several identified this as a major factor in their decision against teaching. Many of these students had friends who were currently teaching in the Los Angeles area, and a number of the specifically negative responses were directed to the Los Angeles Unified School District.

The students reported such instances as:

A teacher in a low socio-economic area discovered that her fourth graders could not read. She wanted to dispense with much of the regular fourth grade curriculum and devote the time to increasing reading ability. The PTA group complained to the principal -- they wanted their children to do what everyone else was doing in the 4th grade. The principal complied with the parents and the students are going on to the fifth grade with virtually no reading ability.

Teachers in the Los Angeles Unified School District expressed to our interviewers great dissatisfaction with the fact that they were always moving from school to school. Therefore they felt they had no opportunity to form any loyalty or real attachment to one school or group of students, and had no chance for personal satisfaction in watching the children progress. "Consequently," as one teacher expressed it, "the teachers there don't care about the kids. They just want to get them in and out."

Students who were not going into teaching were more likely than teacher candidates to comment on their perception of the salary plateau 5 or 10 years after entering the teaching career. The majority of teacher candidates were not salary oriented. Many even expressed the opinion that teaching didn't have a great salary -- and the salary ceiling was much too low, but rarely did this deter them from their intent to teach.

(b) The Prestige Factors Associated with Elementary and Secondary Teaching

All student panel members were asked:

"1. The following is a list of careers. Among these careers, how would you rank elementary school teaching in regard to status and prestige factors? Please indicate whether you feel an elementary school teacher has the same, more, or less status than the other occupational categories.

2. Among the following careers, how would you rank secondary school teaching in regard to status and prestige factors?"

Table 4 indicates the responses of college students concerning the relative prestige of secondary school teaching. More than half of the students surveyed were in agreement that secondary teaching was more prestigious than elementary.

TABLE 4

RESPONSES OF COLLEGE STUDENTS CONCERNING THE RELATIVE PRESTIGE OF SECONDARY SCHOOL TEACHING COMPARED TO ELEMENTARY SCHOOL TEACHING

Secondary Teaching More Prestigious Than Elementary	Secondary Teaching Has Same Prestige As Elementary	Secondary Teaching Less Prestigious Than Elementary
55%	32%	13%

Tables 5 and 6 compare the relative prestige of elementary and secondary school teaching to school administration or supervision. The latter category was considered to be more prestigious by over 60% (62% and 70%) of all students interviewed. Tables 5 and 6 suggest that there is a slightly smaller dichotomy between a supervisory/administrative post and secondary teaching than between the former and elementary teaching.

TABLE 5

RESPONSES OF COLLEGE STUDENTS CONCERNING THE RELATIVE PRESTIGE OF SECONDARY TEACHING COMPARED TO SCHOOL ADMINISTRATION OR SUPERVISION

Secondary Teaching More Prestigious Than School Administration	Secondary Teaching Has Same Prestige As School Administration	Secondary Teaching Less Prestigious Than School Administration
15%	23%	62%

Tables 5 and 6 suggest that higher salaries would not be the only inducement to teachers who elect to go into school administration but that the increased prestige derived from these positions may also be a potent factor. (However, the higher salary in administration may, of course, be an element in administration's higher prestige position).

TABLE 6

RESPONSES OF COLLEGE STUDENTS CONCERNING THE RELATIVE PRESTIGE OF ELEMENTARY TEACHING COMPARED TO SCHOOL ADMINISTRATION OR SUPERVISION

Elementary Teaching More Prestigious Than School Administration	Elementary Teaching Has Same Prestige As School Administration	Elementary Teaching Less Prestigious Than School Administration
14%	16%	70%

Table 7 lists the percentage of students who consider elementary and secondary teaching more prestigious than the other occupational categories listed. The occupations are ranked by the percent of student panel members considering teaching more prestigious than the occupation. Thus, 77% of the students considered elementary teaching a more prestigious occupation than that of a sales clerk in a woman's specialty store, while 79% considered secondary school teaching a more prestigious occupation than that of an airline stewardess.

The double lines in each column function as cut-off points, above which more than half of the students surveyed agreed that teaching is more prestigious than the occupations listed, and below which less than half of the students considered teaching to be more prestigious. It is again noted that elementary school teaching is one of the occupations listed as being less prestigious than secondary school teaching.

Table 8 shows the relative student agreement concerning occupations which have the same prestige as teaching.

The cut-off points in Table 8 denote those professions that are selected by more than one third of the students as occupations which have the same amount of prestige as teaching. An appraisal of the occupations above the cut-off points indicates that elementary school teaching is more frequently considered to have the same prestige as service occupations, or occupations which are generally associated with the female role; while secondary teaching is compared to occupations more closely associated with the technical or male role.

Our survey indicates that teaching as a profession is not considered to be as prestigious as many of the occupations listed in Tables 7 and 8. For example, at least half of our students believe that the following careers: laboratory technician, computer programmer, dietician, or journalist, would bestow the same as or more prestige than a career in elementary or secondary teaching; yet none of the above require an equivalent period of formal training.

b. TPI Data

Looking at data from the TPI surveys, and examining certain responses given by both California and out-of-state TPI's helps to highlight both common and unique perspectives and problems, and provides a context for subsequent evaluations.

The TPI's were asked: "In your judgment, and based on recent experience (approximately last five years) of your institution, has the supply of new teachers suffered significant losses to other careers?" Table 9 shows the responses to this question. While 47 percent of California institutions perceive a loss to other careers, only 19 percent of the out-of-state institutions share this perception.

TABLE 7

PERCENTAGE OF STUDENTS WHO FEEL THAT ELEMENTARY TEACHING HAS MORE PRESTIGE THAN:	
Sales Clerk in Womans Specialty Store	77%
Receptionist	75
Master Plumber	66
Airline Stewardess	63
Private Secretary	53
Buyer in Dep't. Store	48
Personnel Worker	34
Dental Hygenist	34
Factory Manager	33
Office Manager	31
Lab Technician	30
Captain in Army	28
Dietician	27
Accountant	25
Nurse	23
Pharmacist	15
Engineer	15
Chemist	15
Journalist	14
School Supv./Admin.	14
Sociologist	10
Secondary Teacher	9

PERCENTAGE OF STUDENTS WHO FEEL THAT SECONDARY TEACHING HAS MORE PRESTIGE THAN:	
Airline Stewardess	79%
Receptionist	78
Master Plumber	69
Private Secretary	68
Copy Writer	58
Buyer in Dep't. Store	57
Elementary Teacher	55
Personnel Worker	45
Factory Manager	44
Captain in Army	41
Dental Hygenist	40
Computer Programmer	38
Office Manager	37
Dietician	36
Nurse	36
Airline Pilot	36
Journalist	28
Statistician	22
Chemist	16
Engineer	16
Pharmacist	16
School Supv./Admin.	16
Sociologist	15
Editor	13

Note: The two lists were not designed to be identical.

TABLE 8

PERCENTAGE OF STUDENTS WHO FEEL THAT ELEMENTARY TEACHING HAS THE SAME PRESTIGE AS:	
Nurse	53%
Personnel Worker	49
Dietician	48
Journalist	43
Dental Hygenist	42
Sociologist	42
Accountant	39
Secondary Teacher	34
Office Manager	33
Lab Technician	33
Private Secretary	32
Pharmacist	29
Captain in Army	29
Buyer in Dep't. Store	26
Factory Manager	22
Airline Stewardess	22
Master Plumber	18
School Supv./Admin.	16
Chemist	12
Engineer	11
Receptionist	9
Sales Clerk in Womans Specialty Store	9

PERCENTAGE OF STUDENTS WHO FEEL THAT SECONDARY TEACHING HAS THE SAME PRESTIGE AS:	
Sociologist	49%
Statistician	47
Nurse	47
Personnel Worker	44
Pharmacist	42
Journalist	42
Dietician	40
Dental Hygenist	37
Editor	36
Office Manager	35
Elementary Teacher	32
Copy Writer	31
Captain in Army	30
Factory Manager	29
Computer Programmer	28
School Supv./Admin.	23
Buyer in Dep't. Store	22
Chemist	20
Airline Pilot	19
Engineer	19
Master Plumber	16
Private Secretary	16
Airline Stewardess	9
Receptionist	7

TABLE 9

LOSSES TO OTHER CAREERS

Location	Response		
	No	Yes	Total
California	19 53%	17 47%	36 100%
Non-California	25 81%	6 19%	31 100%
Totals	44	23	67

TABLE 10

REASONS GIVEN FOR LOSS TO OTHER CAREERS, IF ANY, CALIFORNIA TPI's

Rank and Percent Indicating[a]		Reasons
1	44%	Stepped up recruiting by business and industry
7	14%	Lack of encouragement to teach by education faculties in the colleges
10	0%	Lack of encouragement to teach by subject matter faculties
4.5	19%	Low teacher salaries
9	3%	More demanding credential requirements
2	36%	Loss of status and prestige for teaching
8	11%	Graduate School
6	17%	Government Service (including Peace Corps, Teacher Corps)
3	25%	Military Service
4.5	19%	Other

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[a] Percent of total institutions reporting. Since more than one reason could be checked, the percentage may sum to over 100 percent.

Table 10 indicates the frequency and rank of the reasons given for this percieved loss. (Tabulations were not made for the six out-of-state TPI's). "Stepped up recruiting by business and industry" ranks as the most frequent reason given. "Loss of status and prestige for teaching" ranks second. More demanding credential requirements" and "lack of subject matter faculty encouragement" rank last.

c. Subject Matter and Grade Level

(1) What are the reasons for recent changes in choices of teaching level (i.e., elementary changing to secondary) among students preparing as teachers? (Background Study)

Most faculty respondents mention the 1961 Certification Act early in any discussion of the shift away from elementary teaching. Students now must take essentially the same course work in preparation for secondary and elementary teaching. TPI respondents suggest that students, able to go into either level, naturally pick secondary which is characterized as

- having more prestige
- easier work
- receiving higher pay
- more interesting (teaching in subject matter field)
- characterized by more stable and realistic training
- requiring fewer units (elementary teachers are required by the 1961 Certification Act to take five more units in an academic field and three hours of mathematics).

Faculty respondents often linked the recent changes to the issue of confusion in credentialling. Two respondents singled out the mathematics requirement as especially confusing. The constant and innumerable changes in the credentialling requirement have greater impact and impose a greater uncertainty on the elementary-bound student. As one respondent said,

> "it has been our experience that people go into secondary rather than elementary because of the differences in credential requirements. In secondary education, the requirements are far more realistic. Students would rather teach at a grade level that is not their first choice, [but] in a subject area they are prepared to

> teach. In preparing for elementary education they have to spend so much time [in college] on their major and get so little help on teaching, that they are afraid to attack elementary teaching and prefer to teach in the subject matter area. Students feel that the requirements for elementary education are contradictory, confusing, and complex, and they would rather not struggle with them. For example, the special mathematics requirement is contradictory, confusing and senseless. It doesn't seem logical that this should have been singled out when there are new developments in teaching linguistics and the sciences. If they are going to make the elementary teacher familiar with 'the new math,' they should do the same for linguistics and science. Providing for it in math, but not in the other fields is the kind of contradiction that bothers them. They like the stability of the secondary program because there have been fewer changes in it."

It was suggested to us that the women who might, under former conditions, have become elementary majors were taking refuge in social science and English majors.

Another viewpoint expressed was that a natural (personality and interest) selection takes place between elementary (whole child development) and secondary (subject matter) teaching based on the interest of the potential teacher. Contrasted is the belief that some elementary teachers can specialize in a subject.

(2) Factors Pushing Towards or Away from Elementary Level Teaching (Student Interviews)

Of the 123 students we interviewed, 20 had definite plans to become elementary teachers. All 20 were women. From this figure and from general student discussion, we received the impression that elementary teaching is still generally perceived as a woman's career. Faculty also reflected this view, telling us of special efforts to attract men.

Factors influencing the choice of elementary teaching over secondary included the following:

The young child was perceived by many of these teacher candidates as being more impressionable, more lively, more eager to learn than the older, high school age child.

> Many students had no real commitment to one subject matter area and did not want to pick a single major or be compelled to teach one subject all day. Most who fell in this category were utilizing available inter-departmental majors, expressing real satisfaction with the program. We found that most students graduating with an inter-departmental major in teaching were doing so within the social sciences, either because that was the area of greatest enjoyment for them or on the advice of the school.
>
> Similar to the reason above, but still separate, was the impression of several students that it would be more interesting or exciting or less boring to teach several subjects in the course of the day.
>
> Some students said that the major influence in their entering elementary teaching was either a very good or very bad personal elementary experience. Several had had what they felt were very valuable and productive elementary school experiences and therefore wished to carry this on in the role of teacher. One or two students we talked with had had poor elementary teachers or unproductive elementary years and wanted to enter elementary teaching to "change this."
>
> We also talked with a few students who were in the elementary program either out of early and lengthy parental pressure, or because they (girls) had "never thought of anything else."
>
> In one school out of six we visited, there was a significant awareness by students of elementary teaching as a shortage area.* There was an indication that some students had entered the program knowing they were fairly well assured of an immediate job offer. A number of men students were reported in this program who had been attracted by the shortage or who had no other program alternative.

A number of reactions to secondary teaching "push" students toward elementary teaching:

> Some students expressed a real concern about their ability to teach a single subject full time, and thus gravitated toward elementary teaching. As one

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* This contrasts with the widespread knowledge about the shortage of elementary teachers on the part of faculty at all the colleges we visited.

> girl said, "I know I'm smarter than the little ones -- and sometimes I'm not sure of that."
>
> Another negative factor was the fear, more common among girls, about disciplining or controlling older pupils. Also, a concern expressed by both men and women students, was the brief age difference between the first and second year teacher and the junior or senior in high school.

(3) Factors Pushing Toward or Away from Secondary Level Teaching (Student Interviews)

Thirty-one students out of 123 interviewed were secondary credential candidates. Among the reasons given for entering the secondary program were the following:

> Many of our student interviewees were very adept in and happy with their major subject area and had a desire to utilize it full time by teaching.
>
> Several students expressed the opinion that secondary teaching offered a greater intellectual challenge than elementary teaching. (It was a general impression, expressed by some students as well as faculty members, that the higher a teacher candidate's grade point average, the more likely he was to enter secondary teaching.) At any rate, many students felt that high school teaching offered an opportunity for an interchange of ideas and opinions and a real opportunity to inspire the students.
>
> The well established path from secondary teaching into administration was, for young men in particular, a major element in determining to teach on the secondary level. Interestingly enough, however, most of the men secondary candidates whom we talked with, expressed no real desire to leave teaching for administration but felt rather that at some point in their life they would probably be "forced into it" through need of the additional salary.
>
> The influence exerted by an exciting or inspiring high school teacher was reported to us by some students as playing a major role in their decision to teach on the high school level. The students were impressed by what they sensed as a real excitement and satisfaction from the job and desired to inspire others in the same way.

The only "negative" factor which consistently reenforced the decisions of several of our secondary interviewees was the repeated statement, "I can't stand little kids." Some also indicated that they couldn't communicate with small children, that they didn't feel comfortable around them, and that they didn't want to spend several hours during the day "just keeping things under control."

(4) Other Educational Areas (Student Interviews)

Among our student interviewees some plan to teach but cannot easily be categorized into either the elementary or secondary areas:

> Several students we talked with were very interested in teaching in special educational schools. These students wished to work with retarded or otherwise handicapped children. Most of the students were planning to do this within the general public school system. These included both those intending to teach on elementary and secondary levels.
>
> Several candidates planned to enter very low socio-economic, culturally deprived, generally minority group areas.
>
> Four of our interviewees who were not planning to teach in public school said they would teach in either a private or a parochial school. They generally expressed an unwillingness to deal with the discipline problems in public schools,* or believed that many private schools paid better, or, as one girl stated, who was planning to get a Master's Degree in English, "you avoid the credentialling complications."

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* Informal talks with private school teachers reveal that they do not, by and large, feel that there is an absence of discipline problems in the private school sector. They feel that one trades one set of problems for another set when turning to private school teaching. The most prevalent attitude reported by teachers is that parents feel they have paid for their children to be taught so they are less inclined to be involved with the school and the teaching process.

(5) TPI Survey Data on Shifts between Elementary and Secondary Enrollments

We suggested above that with post-1961 requirements relatively similar for secondary and elementary credentials, salary and prestige naturally pull students toward secondary teaching. This really involves three questions. First, has there been a shift from elementary to secondary enrollments as in California TPI's? Second, if such a shift has occured in California is it part of a nation-wide pattern or is it unique to California? Third, if such a shift is unique to California, what is the importance of credential requirements salary and prestige?

TPI's were asked the question:

> "In your judgment has a shift of more than 10 percentage points occured in the last five years between the proportions of education students at your teacher preparatory institution going into elementary vs. secondary teaching?"

Table 11 shows that 74% of the California TPI's saw a shift in enrollment from elementary to secondary. On the other hand, 87% of the out-of-state TPI's saw no shift whatever. Thus, our first two questions are answered. A shift from elementary to secondary enrollments is perceived by California TPI's, and this perception is unique to California.

Table 12 shows the relative importance of reasons for this shift. "Higher salaries" ranks first, followed by "more challenge," "easier work," and "credential requirements easier to meet." "More prestige or status" ranks eight. Thus, two of the three factors hypothesized, credential requirements and higher salaries, appear to be among the major reasons for the shift in enrollments from elementary to secondary.

4. Availability of Information, Advice, and Influence About Teaching as a Career

a. Information from the Background Interviews

(1) How well informed are faculty advisors concerning programs and procedures for students in their disciplines to prepare as elementary and secondary teachers? How well informed are these advisors about subject areas of critical needs for and oversupply of teachers?

It was difficult in our background interviews to comment on these questions due to the lack of criteria by which to judge. In subject matter faculties, the interest and involvement in teacher training usually centers in a few people. For instance, in one English faculty 3 or 4 of the 80 man department are known to be the ones involved. Students find their way to these men. In some instances we found these

TABLE 11

SHIFT IN ENROLLMENTS

	Direction of Shift Toward							
	Elementary		Secondary		None		Total	
California	2	6%	26	74%	7	20%	35	100%
Non-California	3	10%	1	3%	27	87%	31	100%

TABLE 12

REASONS FOR SHIFT TO SECONDARY, IF ANY, GIVEN BY CALIFORNIA TPI'S

Rank and Percent Indicating[a]		Reasons
1	74%	Higher salaries
8	11%	More prestige or status
2.5	51%	More challenge
11.5	3%	Fewer student discipline problems
11.5	3%	More chance to teach subject matter of interest
2.5	51%	Easier work
9	8%	More stable work environment
11.5	3%	More realistic training requirements
7	17%	More certainty in credential requirements
5	31%	Other
6	23%	More realistic credential requirements
4	37%	Credential requirements easier to meet
11.5	3%	Fewer academic units of preparation required

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[a] Percent of total number of institutions reporting. Since more than one reason could be checked, the percentages may sum to over 100 percent.

men very well informed; in other instances the advisor had a generalized rather than a detailed knowledge. We did not interview faculty members who were not at all concerned with the problem.

One respondent in the California State Colleges said he thought all graduates were being placed; he did not differentiate between under- and over-supply fields. Another said the Placement Office keeps knowledgeable on teacher shortages and oversupply.

(2) To what extent and how, if at all, do faculty members actively encourage or discourage students to consider elementary and secondary teaching careers?

One would expect -- and we were told -- that subject matter faculty have a greater affinity for and understanding of subject matter, that is, secondary level, teaching.

Subject matter faculty -- as perceived by themselves and by education faculty -- are neutral in attitude among the variety of career choices open to students. The extreme expression of this position was stated this way:

> "I train scientists; let anyone recruit them. It is not my place to encourage or discourage my students from considering teaching careers."

Education faculty members in particular point out that college teaching and research are preferred status careers and that K-12 teaching for the best student is less encouraged by subject matter faculties. (Other prestige rankings by teachers are reported in another section.)

Subject matter faculty were less aware than education faculty of elementary teaching careers and shortages. However, subject matter faculty members are very aware of the key role in teacher supply played by the State college system, citing to us that in some instances State colleges were originally normal schools. One aim of college curriculum design is to permit the student free choice among courses and flexibility to change programs. Subject matter faculty at the State colleges said that the preparation of teachers should remain an important, though not the dominant, role of the CSC's.

Some school personnel administrators believe that there is a clear and positive need for the president of each TPI -- especially of the State colleges -- or his top deputy, personally to assume leadership in generating an institutional "atmosphere" which will guide students into K - 12 teaching.

All faculties are pursuing new ways to encourage students into teaching. Cited to us were the following:

- Intern program
- More active liaison between subject matter and education faculties
- Joint appointment of faculty
- All College Teacher Education Committees

To some extent, unfavorable attitudes of each faculty toward the other hinder cooperation in encouraging teacher credential candidates. Some bitterness still exists about the 1961 Certification Act passage; this is passed on to students, directly or indirectly.

Subject matter faculty are apparently not acutely aware of shortage areas either by subject matter or on the elementary level. Therefore, the information is not communicated to students.

b. Information from TPI Faculty Interviews

(1) Introduction

Before beginning a discussion of the advising and influencing of students on college campuses, it may be beneficial to indicate some of our perceptions and conclusions about this segment of the interviewing program.

A precise and distinct picture of the total advisory structure of a school is not best perceived through faculty members, either education or subject matter. They tend to see and deal with only that segment -- of students and information -- which is important within their immediate realm.

For subject matter faculty, how they interpret and carry out their own advising functions is subject to variation and likely to depend on their individual position and emphasis -- teaching versus research orientation and the group of students (undeclared majors, graduates) they advise.

Education faculty often do not see students until the junior and sometimes senior year, and often have little prior cognizance of or involvement in advising (except in those schools in which some undeclared majors are assigned advisors in the education department).

What is perceived by faculty members and was communicated to us through our interviews are the various ways in which they interpreted and use the advising system; their judgments as to what sort of advising students need and want -- the question students ask, their satisfactions and dissatisfactions; and the faculty members' awareness of a liaison or lack of it between subject matter and education departments.

(2) College Formal Advising Systems

On some campuses we found active, formal counselling services. At such campuses, all entering students fill out the necessary registration forms including information about career plans. These forms are then distributed to departments -- such as education -- for use in planning the student contact. At some colleges, the student-faculty advising assignment is for a 4-year period, allowing development of a relationship not possible with less structured, more permissive advising. The longer the formal advising relationship between student and professor, the more apt an effective relationship is to become established.*

One college faculty reported to us a new program to obtain information about student plans. It involves a questionnaire to students in the first education course to determine student plans for Junior or Senior years in regard to credentialling plans and career.

Even on a single campus, both strong and weak student-advisor channels may exist. For instance, at one college, a science advisor suggested that the faculty members in his own department could be divided into research-oriented and teaching-oriented professors. The professor who has a long-standing interest in teaching is reported as apt to have career advising interests.

(3) Other Information and Influence on Students

The overall impression of the communication of career opportunities in the colleges is one of informality and impersonality. Faculty most often mentioned as channels of information bulletin boards and word of mouth.

Bulletin boards are typically crowded with college announcements, brochures, and other information, and are located at a few key places on campus. Word of mouth usually referred to student-to-student communication of which the faculty was keenly aware. One professor cited the recurring waves of rumors that swept the campus about credential requirements or draft board regulations.

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* A systematic analysis of the characteristics and implications of advising at colleges might be another useful research study in the future.

Somewhat fewer mentioned student-advisor meetings and placement offices as channels for career information, both of which are more personal channels. Whereas bulletin boards and word of mouth were mentioned as pervasive and were persuasive at all campuses, student-advisor and placement office channels varied widely in importance from campus to campus and often on a single campus among students in different departments.

Education school faculty perceptions of advising limitations were as varied as the schools in the California State education system. In general, the education school faculty sees students coming to them in the junior year as poorly informed, or, at best, only moderately well informed in regard to subject matter major or minor requirements. The more contact there is between student and education school faculty, the better the rating of information adequacy. Two possible reasons may be given for the better informed rating by the education faculty. They might, on one hand, be reflecting their added influence or feeling of influence with students with whom they have contact. Secondly, the education faculty may be more concerned with all the requirements, including subject matter credentialling requirements, as compared to subject matter faculty who are more concerned with graduation requirements. Our data are unable to differentiate between those two possibilities.

Patterns of rated information adequacy as to education course requirements tend to be related to how close education school faculty are to freshman students.

Advisors are about evenly divided as to whether students are informed or not about teacher shortages in certain grade levels.

We were told of some striking instances of the importance of junior colleges in the motivation of students. Students from junior colleges are thought of as more informed about teaching requirements in many cases, and never less informed, than the college's own freshmen. Often we were given the name of one or more junior college teachers who are enthusiastic recruiters to teaching careers. Education school faculty at state colleges often keep in close touch this these people.

A few professors within subject matter departments tend to specialize as advisors to teacher candidates. One physical science instructor we talked to played that role. He was pleased to do so since he was more inclined toward teaching than research. He told us that another professor in the physical science department specialized in advising the pre-dental, pre-medical students. Beyond these two "specialists" the other physical science faculty advised the rest of the departmental majors.

The rest of the faculty was perceived as being oriented toward research rather than teaching. This was reported as a typical situation in most colleges by all faculty we interviewed. We find the large majority of subject matter professors likely to advise the better students into research or higher education teaching. As one faculty interviewee said: "I encourage my best students to get PhD's and my worst to become secondary teachers".

This orientation is even more pronounced on the university campuses we visited, since the university clearly has a research emphasis.

In summary, there are overt and subtle pressures that isolate students from encouragement toward teaching in the K-12 school systems. Overtly, many, if not most, subject matter professors are neutral toward all career choices; subtly, they encourage the better students to obtain graduate degrees and stay away from K-12 teaching. No doubt, this contributes to and reinforces the career prestige hierarchy that students feel.

Strongly supporting the existance of a hierarchy of status was the question of career choice for better students. Eighteen out of twenty-four faculty confirmed the often heard statement that the highest academic achievers go into graduate work and are encouraged to do so by faculty. Education faculty members were often quite defensive about this point, first citing that their best students were among the top ranking graduates ("excluding student teaching and methods courses grades") and the average grade of their graduates was above the all-campus average. But these faculty members almost always came back to the basic statement that the highest academic achievers rarely go into K-12 teaching.

There were many variations on the themes that the better students were encouraged to careers other than teaching at the K-12 levels. For instance, some faculty, while acknowledging the above as the real situation, have come to recognize that the state colleges, and the subject matter departments, have a responsibility to train and graduate secondary and elementary teachers. There appears to be a shift towards a wider interest in and responsibility toward the teaching training function of colleges, as several subject matter faculty reported to us. This has been further reinforced by the recent development of a policy statement on teacher training requirements by the State Colleges Faculty Senate.

There is an unexpected (to us) agreement among both faculty groups, education and subject matter, that colleges should encourage some of their students to enter teaching. All faculty groups joined in this opinion 16 to 5. Another three thought it would depend on other factors, such as student attributes.

The five people answering negatively thought the college should have information about available career choices but let students make their own choices. The predominant opinion however, was summarized by a physical science professor who said, "If we don't encourage students to teach, we won't have enough teachers."

When asked about comparison of other career choices with teaching for a variety of factors such as salary, prestige, and creativity, there were marked differences between education and subject matter professors.

Education faculty typically see the alternative career choices for their students as about the same as teaching. There was some slight tendency to see the prestige factor of teaching as lower than for other careers, although all other factors were ranked about the same.

Subject matter faculty, by contrast, have quite definite perceptions of job characteristics differences between teaching and their students' other career alternatives. (These career alternatives are quite different from the ones listed by the education faculty). Teaching is perceived to be lower in starting salary, salary advancement, and in prestige, than the alternatives. Yet teaching is ranked much higher in self-fulfillment, service to society, and to a lesser degree, higher as creative work and amount of needed college preparation. This ambivalence probably reinforces the essentially neutral stance on recruiting into various careers taken by subject matter professors.

(4) Perceptions of Shortage Areas

Almost all of the education school faculty we talked to expect a continued shortage of teachers in the short run (1967-68) and in the long run (1975). Seven out of eight thought there would be a shortage in 1967-68; Six out of eight thought there would be a shortage in 1975. Most were concerned with the shortage in grades K-6. One man pinpointed it to grades K-3. In addition to the expected shortages of mathematics and sciences, there was frequent mention of shortages in vocational education-industrial arts.

We got only a single mention of English and not one mention of foreign languages as a potential shortage area.

Sections below give quantitative data on shortages.

c. Information from the Student Interviews

(1) Formal Advising System

As closely as we could determine through our student interviews, students in California high schools are typically assigned counselors or advisors at the beginning of their high school careers. These advisors assist the student in planning each semester program and are generally available throughout the year for consultation or advice on any problem or question the student may wish to discuss. (The counselling system varies, of course, from high school to high school, depending on student advisee load, counselor's availability, etc.)

In order for a student to obtain advice or information about teaching from a counselor, he must seek out the counselor for a special conference. As reflected in our interview findings, very few students do this. Only 17 percent of the students we interviewed had, at any time in their high school or college career, specifically sought out an advisor or counselor in order to discuss teaching as a career. The percentage figure for high school alone would be considerably lower.

Unlike the high school counselling system, college advising situations vary dramatically from school to school. We have indicated above that in some schools a student is assigned an advisor for four years when he enters. Some are assigned one advisor before they have declared a major and another afterwards in their major department. Some change from year to year, and at one school in which we interviewed there is no formal advisory structure at all. This is termed "free choice" and students are expected to approach a favorite teacher for counselling advice. Of course, many do not; some never see an advisor during their entire college career. Some talk with teachers, or heads of departments, or, as they reported to us, secretaries, or whoever they believe is likely to have an answer to a specific question or problem.

At one college we visited, it was reported to us that a large number of students with undeclared majors were assigned advisors in the Education Department in order to provide them with increased familiarity with this career choice area.

Again, as stated above, only 17 percent of our student interviewees reported - either in high school or college - seeking formal advice or counselling on teaching. For college alonge, the percentage is much lower.

To account for this very low figure, it may be well to indicate student perceptions of the college advising systems. In almost every school we visited, students reported to us dissatisfactions with their advising. Many cited incidents of confused or inadequate advice. (Some said that they or friends of theirs had had to take extra classes or even an additional semester as the result of poor advising). At one school, where students were particularly unhappy with the advising they had received, a student ad hoc committee has been established to investigate the advising system. The students have not yet reported their findings.

At the school mentioned above, where there is no formal advising system; students, after bad or negative experiences with teachers, almost invariably went to heads of departments or secretaries for answers to their questions. Five out of twelve students had never seen an advisor and were relying only on the catalog and an evaluations desk in the admissions office to assure them they were meeting graduation requirements.

In general, the students at all schools felt that faculty advisors were unsure and inadequate sources of information about credentialling and graduation requirements.

Students did not report any knowledge of faculty specialization in advising by specific career areas, such as teaching, pre-med, etc.

(2) Informal Advice and Influence Sources

Throughout high school and college, but particularly in high school, teachers were reported to us as a major source of informal advice and information or influence on choice of teaching as a career. On almost every panel there were several students who had had one or more very good and inspiring teachers during their high school career. Among the teacher candidates we interviewed, several stated a desire to "be like" a particularly good high school teacher.

Many students reported informal classroom or individual discussions in high school in which the teacher talked about the profession and his or her own personal satisfaction. As reported to us, direct advice given by high school teachers was generally encouraging towards teaching.

However, in a few instances teachers advised individual students not to teach. One student was advised against teaching by a teacher who said he "was not emotionally or personally equipped to teach." Others advised some students to go on to graduate study.

At the college level there were fewer teachers (outside of the education departments) who discussed teaching (K-12) as a career. But among those who did there was a higher percentage who advised against it. (Among the advice received from high school teachers about teaching as a career, we received reports of only two or three incidents of teachers advising students against it. On the college level, approximately 15 out of 123 students we interviewed were advised against elementary or secondary teaching by their college teachers).

The influence of the family on the student to teach or not to teach was often quite strong. A very high percentage, 45.5 percent, of the students we talked with had parents or close relatives who are or had been teachers. From this number we found a wide variety of influence and responses:

> Those family members who were very happy with their professions, and strongly advised their children to become teachers.
>
> Those who were generally happy with teaching but still wanted their children to do something else.
>
> Those who had difficult or unhappy teaching experiences and strongly advised against teaching.
>
> Those who wanted the girls to become teachers but wanted the boys to enter business, industry or some other profession.

The first group above was the largest. However, there was a fairly high percentage of teaching parents, as well as others, who strongly felt only the girls should enter teaching while the boys were often advised against it.

Sometimes the family desire to have a son or daughter enter teaching became real pressure which the student either succumbed to or reacted against by choosing another career area.

A very high percentage (73%) of the students we interviewed had close friends or, most often in the case of girls, roommates, who had entered the teaching profession during the past five years. These friends provided a wide and varied exposure to the real situations of teaching.

The great majority of these new teachers reported pleasant and positive reactions to their jobs. And even those with mixed experiences, that is, some negative reactions to the school, the location or the administration, were almost invariably reported as saying that "they loved the kids." (One panel member reported that a close friend had been so delighted by her new profession that she said she had broken her engagement in order to spend more time at her work.)

Only 20 percent of these teaching friends had really negative experiences. Most often these were reported as serious discipline problems, poor administration, or parental pressures, and for high school teachers in particular, the many hours spent on work at home.

Almost every teacher candidate we interviewed had one or more friends or roommates who are teaching. And several of the panel members not entering teaching indicated that they were to some degree influenced by friends who taught and didn't like it.

The real influence exerted by this kind of social, informal, word-of-mouth information about teaching is subtle, pervasive, and very difficult to accurately gage. We believe this may be one of the most important influences on those who are uncertain in their career choice.

We noted one interesting dichotomy between students and faculty when discussing bulletin boards as an informal channel of information about teaching. Bulletin boards, which are used more or less extensively on all the campuses we visited, were almost unanimously mentioned by faculty as a major source of teaching career information. On the other hand, the students we talked with, while generally aware that bulletin boards existed, report almost unanimously that they seldom looked at them and did not use them for obtaining information on teaching.

(3) Student Perceptions of Shortage Areas

As a general rule, students had only a vague and diffuse awareness of a "teacher shortage." Only at one school did we find a real perception on the part of students that there was a specific shortage on the elementary level. (Out of 24 students interviewed at this school, 9 were teacher candidates; 7 of these were working toward elementary credentials.)

The students interviewed, especially the teacher candidates, seemed generally knowledgeable about the fact that some geographical areas within the state had difficulty in attracting teachers -- the poorer and more isolated rural districts, the urban areas with low economic and cultural levels, and the schools and districts with intense discipline problems. Some of our interviewees from the central part of the state were planning to teach in rural areas even though they knew the salaries were generally lower.

d. Information from the TPI Surveys

Table 13 shows the frequency of various practices to encourage students to teach at the elementary level. The most frequently indicated present practice for both California and non-California TPI's is the "advising of transfer and post-graduate students." California tends to rely more on "All College Teacher Education Committees." With regard to all other practices, however, California and non-California TPI's tend to place relatively equal emphasis. "Increased liaison between subject matter and educational faculties" has been or is being instituted at almost all California TPI's.

The pattern of practices for encouraging students to teach at the secondary level is quite similar to that for the elementary level and is therefore not documented by a table.

TABLE 13

CAREER COUNSELING GIVEN TO STUDENTS TO TEACH AT THE ELEMENTARY LEVEL

Rank and Percent Indicating[a]								
Present				New in last 3 years				Practices
Calif.		Non-Calif.		Calif.		Non-Calif.		
4	51%	2	61%	2.5	17%	2.5	6%	Career counseling of lower division students by educational faculties.
1	77%	1	68%	4	14%	5	3%	Advising of transfer and post-graduate students.
5	23%	5	23%	2.5	17%	2.5	6%	Intern programs (for students with A.B. but having no teacher training).
2	60%	4	32%	5	9%	2.5	6%	All College Teacher Education Committees.
3	57%	3	48%	1	34%	6	0%	Increased liaison between subject matter and educational faculties.
6	17%	6	16%	6	0%	2.5	6%	Other

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[a] Percent of total number of institutions reporting. More than one practice may be indicated by an institution. Therefore, percentages may sum to over 100 percent.

TABLE 14

HOW ARE CERTIFICATION REQUIREMENTS COMMUNICATED?

Rank and Percent Indicating[a]				
Regarding Home State		Regarding Other States		
Calif	Non-Calif	Calif	Non-Calif	Communication Procedures
1 83%	1 60%	2 19%	2 33%	As part of a face-to-face presentation of teacher career information.
2 78%	3 37%	1 44%	1 57%	As reference material available in the placement office or the school of education.
3 58%	2 47%	3 6%	3 10%	As part of catalog.
4 19%	4 30%	4 0%	4 7%	Other

---

[a] Percent of total institutions reporting. Since more than one procedure could be indicated by an institution, percentages may sum to over 100 percent.

In regard to formal procedures for handling over-supply of teachers in subject areas, only 3% of the California TPI's report having such procedures, while 60% of the out-of-state TPI's have one or more such procedures in effect.

With respect to formal procedures for dealing with the problems of under-supply of teachers in subject matter areas 49% of California TPI's and 63% of non-California TPI's, report their existence.

94% of California and 100% of out-of-state TPI's communicate credential requirements to teacher preparatory students in college. Table 14 indicates that home state certification requirements tend to be communicated by face-to-face presentations, although California TPI's tend to make more use of reference material than do non-California TPI's with regard to home state certification requirements. The communication of certification requirements of other states is born by reference material for both California and out-of-state TPI's.

Only about a third of the TPI's take specific steps to encourage their education graduates to teach in the home state of the TPI.

5. Use of Interdepartmental Majors

To what extent have interdepartmental majors been utilized in the preparation of elementary teachers?

In Table 15 the approved existing interdepartmental majors at California State Colleges are shown. A few, such as Chinese studies and conservation, obviously do not help in teacher preparation. Not all State Colleges have these programs. One respondent told us that he was strongly opposed to them and none were being planned in his school.

At some colleges we were told of added interdepartmental majors being developed and awaiting last changes and/or approval. Respondents also told us of proposed majors that had foundered because of disagreement among the departments concerned. The negotiation aspects of which courses will be deemphasized (from the single department major) was reported as a difficult point.

We were told of greatly increased enrollments in the Social Studies major in two colleges. It was thought that this had been the major selected by those who previously had taken elementary majors.

In summary, our interviews suggest that interdepartmental majors are a new response, still being developed. This, then, is an other example of a slow response to the 1961 Certification Act.

6. Availability of Courses for Teachers

Are appropriate upper division or graduate courses in subject matter areas offered at times when teachers can take them? (After school hours and during summer sessions for partial fulfillment credential holders, those working for advanced degrees and for in-service improvement).

We can approach this from three points of view:

The client (teacher) perception

The stated opinion and policy of TPI personnel

The interviewer's subjective observation and judgment

Most faculty respondents stated that they are more concerned with the full-time day programs. However, this observation may be due to the sampling of persons we talked to. Our respondents reported that a "satisfactory" number of course offerings occur, but not every course that every teacher wants.

TABLE 15

EXISTING INTERDEPARTMENTAL MAJORS AT CALIFORNIA STATE COLLEGES

COLLEGE	PROGRAMS	DEGREES GRANTED		
San Bernardino	None			
Fullerton	Communications	BA		
	Humanities	BA		
	Biological Sciences			
	Social Science			MA
San Luis Obispo, Polytechnic	Biological Sciences		BS	
	Social Sciences		BS	
Kellogg Campus, Polytechnic	Language Arts		BS	
	Biological Sciences		BS	
	Physical Sciences		BS	
	Social Sciences		BS	
Hayward	Business Education		BS	
	Language Arts	BA		
	Biological Sciences		BS	
	Physical Sciences		BS	
	Social Sciences	BA		
San Fernando Valley	Business Education	BA		
	Physical Sciences		BS	
Humboldt	Social Sciences	BA		MA
Sacramento	Business Education			MA
	Life Sciences	BA	BS	MA
	Physical Sciences	BA		
	Social Sciences	BA		MA
San Francisco	Humanities	BA		MA
	Physical Sciences	BA		MA
	Social Sciences	BA		MA
	American Studies	BA		
	Chinese Studies	BA		
	Latin American Studies	BA		
Los Angeles	Business Education	BA		
	Language Arts	BA		MA
	Social Sciences	BA		MA
	American Studies	BA		MA
	Latin American Studies	BA		
Sonoma	Biology/Mathematics	BA		
	Physical Science	BA		
	Physical Science/Math	BA		

TABLE 15 (Continued)

COLLEGE	PROGRAMS	DEGREES GRANTED
Chico	Business Education	BA MA
	Humanities	
	Language Arts	MA
	Biological Sciences	BA MA
	Physical Sciences	BA MA
	Social Sciences	BA MA
	American Studies	BA
San Jose	Business Education	BA MA
	Fine Arts	BA
	Environmental Health	BA
	Language Arts	BA (discontinuing)
	Conservation	BA
	Natural Science	BA
	Life Sciences	BA
	Biological Sciences	BA MA
	Physical Sciences	BA MA
	Social Sciences	BA MA
Fresno	Biology	BA BS MA
	Life Sciences	BA
	Social Sciences	BA
	Latin American Studies	BA
San Diego	Business Education	MA
	Physical Sciences	BA MA
	Social Sciences	BA MA
	Latin American Studies	BA
Long Beach	Business Education	BS
	Biology	BA MA
	Physical Sciences	BA MA
	Social Sciences	BA MA
Palos Verdes	None	
Stanislaus	Fine Arts	BA
	Biological Sciences	BA
	Physical Sciences	BA
	Social Sciences	BA (discontinuing)

One college indicated it held summer session courses but not evening courses throughout the year. One urban-located state college has a well-known extensive evening program in all departments.

The colleges and universities in the large urban areas seem most active in providing evening course work for teachers. However, some interviewees stated quite bluntly that this is not the major role of the college and they did not want it to be.

In assessing "appropriateness" in the question, one must consider the status and prestige of evening courses. The instructors are often not perceived as being the best. Often they are part-time practitioners with other jobs. The students are generally a mixed group -- we were told that half are serious about the subject matter and half are in the "unit mill" to get salary step advances.

The Teacher Survey asked about the availability of college or graduate courses on education methods and subject matter, and when teachers had in fact made use of their availability. The overwhelming majority (84%) knew about whether courses were available to them. Two-thirds indicated that courses were available at convenient times; 15% said they were not. Three-quarters indicated that suitable courses were available within 25 miles of their home or school; 10% said there were not. In fact, 2/3 had taken such courses (including summer school) in the last two years. Only 6% had never taken such a course. Many of these 6% probably began teaching in 1966.

We were particularly concerned with whether teachers who had provisional credentials or those on partial fulfillment were able to find courses at convenient times and places. Out of the 71, out of 2,636 elementary teachers who had provisional credentials, 70% felt that courses were available at convenient times, and 80% at convenient places. Seven and 3% felt that courses were not available at convenient times and places, respectively. The 73 elementary teachers with credentials on partial fulfillment gave similar responses.

The situation is slightly less favorable for secondary teachers. One hundred and twenty-one out of 2,558 secondary teachers had provisional credentials. Sixty percent of these said that courses were available at convenient times, and 75% at convenient places. Nineteen percent said that courses were not available at convenient places.

Four hundred secondary teachers had credentials on partial fulfillment. Sixty-two percent said that courses were available at convenient times and 74% at convenient places. Conversely, 24% said that courses were not available at convenient times and 18% said that courses were not available at convenient places.

(The "convenient" and "not convenient" responses above do not sum to 100%, since about 5 to 10% in each group indicated that they did not know, and 5 to 15% made no response to the question.)

Such college or graduate school courses are considerably more commonly taken than in-service courses taught under the auspices of school districts, taken by 38% of our sample in the last two years. 35% had never taken such courses.

7. Number of Teachers Being Educated

Has the number and/or percent of change of teachers trained by California institutions declined in the past two years? If so, how much, in what fields, and why?

(a) Information from background study

In elementary training, both enrollment and graduates are perceived by most TPI's personnel interviewed as having declined over the past three years. Various colleges have documented their experience.* Declines reported range from 25% to 50%, while some increases of more modest amounts were noted in some colleges.

There are different perceptions on the current situation. In two instances there is a reported indication of an upturn in elementary enrollment.

U.C. Berkeley believes it has an increase in those indicating an objective of elementary credentialling.

San Jose State believes its 1966-67 pre-enrollment data indicates an upturn. This was associated with the Rodda Act program for a 4-year course of preparation.

Numbers in secondary training are variously described as constant or increasing. Most often the increase in secondary enrollment is said to be similar to overall college enrollment growth.

Among subject matter fields, there was little documentation of shortage areas. In general interviewees base their response on SDE data, citing English, mathematics, science, and to a lesser extent, women's physical education and Spanish as shortage areas.

If there is a decline in the number of teachers being trained, what is being done to seek to reverse the trend?

The new activities designed to increase numbers of students in teacher education are presented here in an inventory form.

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* However, we have not analyzed the data. The data are considered suspect by various concerned and knowledgeable observers we interviewed. Difficulties in definitions and data collection are cited. Adding up discrete studies done by various people in a variety of institutions is not advisable, due to noncomparability.

1. The Intern Program designed to attract BA graduates who had no preparation for teaching.
2. More career counseling of lower division students by education faculties. Frequent advising of transfer and post-graduate students.
3. Interdepartmental majors.
4. All College Teacher Education Committees.
5. Liaison between subject matter and education facilities.
6. A maximum requirement for graduation on units for a major and units in education courses (CSC).
7. Publicity.
8. New course sequences; a course in Orientation to Education.

(b) Teacher Survey Data

Table 16 shows that more than 58% of California teachers received their education in California colleges. Of the California educated teachers, 57 out of every 100 graduated from California state colleges, the rest coming about equally from the University of California and from California private colleges and universities. Two out of every three California-educated K-6 teachers come from the California state colleges.

Table 17 shows the relationship between number of years of teaching and the type of institution where the B.A. degree was obtained. Forty-six percent of those teaching for three or fewer years received their A.B. from a California State College. As teaching years increase, proportionately fewer respondents received their degree from the three California college types and California State Colleges, while proportionately more receive their degrees from public institutions outside of California, and from the University of California. Those respondents having more than 20 years of teaching received their degrees mainly from public non-California institutions (33%), California State Colleges (22%), and the University of California (17%). Thus, California colleges are significant degree-granting sources for all categories of teaching longevity, 69 percent of the 0-3 years group, to 51 percent of the over 20 years group.

It would seem that the California colleges provide considerable impetus for their graduates to teach in that state. Only 49% of California teachers attended high school mostly in California. There is evidence, then, that 10% of California's teachers attend a college there after having attended high school elsewhere, and then remain in California to teach.

TABLE 16

INSTITUTION OF HIGHER EDUCATION FROM WHICH RECEIVED BACHELOR'S DEGREE

	K - 6 %	7 - 12 %	Total %
No Bachelor's degree	0.63	0.21	0.43
California State College	39.34	27.91	33.85
University of California	10.54	15.94	13.13
California private college or university	11.25	11.67	11.45
Teachers/State/Normal/Public institution outside California	24.11	25.81	24.93
Private college or university outside California	12.55	16.45	14.42
Other	0.24	0.56	0.39
No Answer	1.34	1.45	1.40
Totals	2534	2340	4874

TABLE 17

NUMBER OF YEARS TEACHING AND SOURCE OF BACHELOR'S DEGREE

Institution Type	Years Teaching 0 to 3 %	 4 to 10 %	 11 to 20 %	 Over 20 %	 Total %
No Bachelor's degree	0.27	0.23	0.45	1.17	0.42
California State College	45.74	36.80	27.45	21.74	34.37
University of California	11.18	11.89	15.39	17.06	13.34
California private college or university	11.00	10.58	13.12	12.04	11.56
Teachers/State/Normal/ Public institution outside California	19.16	25.09	27.14	33.11	25.30
Private college or university outside California	11.82	15.13	16.15	14.88	14.62
Other or blank	0.82	0.28	0.30	0.00	0.38
Totals	1091	1758	1319	598	4766
Not tallied					108

(c) Data from Outside Sources

The top section of Table 18 shows the for all California TPI's the rate of increase of teacher preparatory enrollments increased about proportionately with total enrollments. However, since 1961, those preparing to teach elementary school, as a proportion of those intending to teach, has decreased, from 60 percent to 51 percent.

(d) Data from TPI Survey

The bottom section of Table 18, based on data from the 24 California TPI's which supplied information on enrollments, shows a similar picture. In the sample, we find that the number preparing to teach in elementary schools, as a proportion of all those preparing to teach, declined from 67% to 51% between 1961 and 1965. The discrepancy between the population and sample sets of percents is probably due to sampling

TABLE 18

CALIFORNIA ENROLLMENT HISTORY IN TEACHER PREPARING INSTITUTIONS

Enrollments			Year		
Total Population[a]	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966
Elementary as Percent of Total Teacher Preparatory	60	59	58	51	--
Total Teacher Preparatory	27,607	32,056	34,217	35,980	--
Total	166,143	180,524	200,581	219,134	--
Study Sample[b]					
Elementary as Percent of Total Teacher Preparatory	67	66	63	55	51
Total Teacher Preparatory	9,293	10,548	10,552	10,469	9,699
Total	59,458	64,150	70,862	72,385	72,800

---

[a] The California State Colleges, Elementary Teacher Education, CSC, Office of the Chancellor, Division of Academic Planning, September 1965.

[b] 24 TPI's reporting enrollments in study sample.

---

error and to differences in definition of what constitutes elementary versus secondary preparation. The important point is that, however one looks at it, the trend shows decreasing proportions of elementary candidates from 1961 to the later time period.

Table 19 shows that students completing elementary credential requirements, as a percent of students completing any education credential requirements, decreased from 63% in 1963 to about 44% in 1966, in California. Total credential candidates may have decreased from 1965 to 1966. Nationwide, total credential candidates have increased annually since 1963. The elementary proportion has decreased slightly, about 4%, from 1963 to 1966. A good part of this nationwide decrease is due to the California numbers.

Analysis of the enrollments of our sample TPI's individually showed marked fluctuations from year to year in the proportion of elementary candidates to total teaching candidates.

TABLE 19

NUMBER OF STUDENTS COMPLETING CERTIFICATE REQUIREMENTS

	Year			
California	1962-1963	1963-1964	1964-1965	1965-1966[a]
Elementary as Percent of Total	63.0	65.2	58.7	43.9
Total Number of Students	9,286	11,519	12,337	9,727
United States				
Elementary as Percent of Total	42.3	42.6	40.9	38.0
Total Number of Students	153,843	174,133	190,209	200,919

Sources: Teacher Supply and Demand, Research Division, National Education Association, Washington, D.C., 1964,1965, and 1966 editions.

[a] Estimated, on basis of those "expected to complete requirements." In past years, this has been an underestimate, sometimes as low as 82% of the actual (for the class of 1964) for California.

Finally, we found that 47% of California TPI's have students formally elect enrollment in teacher preparatory programs during the junior year, 8% in the senior year, and 14% during the fifth year.

Both California and out-of-state TPI's were asked to project teacher education enrollments by total, elementary and secondary. The ratio of secondary and elementary projected enrollments, respectively, to total teacher education enrollments was computed for each year between 1966-1967 and 1974-1975 when elementary and secondary breakdowns were reported.

The top section of Table 20, for California TPI's, shows that projected enrollments tend to move up annually by 10% of the 1966 level. The elementary percent remains constant at about 44%, the same as the 1966 credential candidate percent in Table 19.

TABLE 20

PROJECTED ELEMENTARY AND SECONDARY EDUCATION ENROLLMENTS

	Year								
30 California TPI's	1966	1967	1968	1969	1970	1971	1972	1973	1974
Total Education Enrollment Identified by Level	19,293	27,222	23,152	25,081	27,010	28,940	30,809	32,798	34,727
Percents:									
Elementary	43.5	44.1	43.9	43.8	43.8	44.1	44.1	44.3	44.5
Secondary	56.5	55.9	56.1	56.2	56.2	55.9	55.9	55.7	55.5
27 Out-of-State TPI's									
Total Education Enrollment Identified by Level	67,865	73,436	79,180	85,620	89,898	95,712	99,966	105,233	111,185
Percents:									
Elementary	40.5	40.6	40.7	40.5	40.7	40.6	40.8	40.8	41.0
Secondary	59.5	59.4	59.3	59.5	59.3	59.4	59.2	59.2	59.0

8. Changes in Philosophy and Curriculum

In the TPI surveys, we asked:

> "What difficulties, if any, has your institution experienced in meeting your state's new certification requirements, policies or procedures?"

Whereas 69% of the California TPI's indicated that they had experienced difficulties, only 19% of the out-of-state TPI's said that they had experienced difficulty in meeting their state's certification requirements.

This result is amplified by considering the free responses to the question:

> "What are the most significant changes that have taken place in your teacher preparatory program since 1961? If more than one, please list in rank order. Indicate when they took place."

Unfortunately, the data are difficult to interpret since (1) some respondents obviously ranked by time rather than significance, and (2) the responses are both varied and couched in different terms. Nevertheless, Table 21 shows the classes of responses made by two or more TPI's, and lists them in order of the frequency of their occurence.

Twenty-one out of 36 (58%) of California TPI's offer a four-year program for minimal certification. In three of the 15 who do not, such a program is under development.

We conclude that most of the changes in philosophy and curriculum among California TPI's reflect responses to changing certification requirements. On the other hand, non-California TPI's changes appear to be internally initiated.

9. Summary of this Section

(a) Career Choice Factors

The primary influences on people to become teachers are the contacts between teachers and pupils that occur between kindergarten and the end of high school. Conversely, influence, advice, and information during college have marginal effects, hardly affecting the "predestined" teacher or non-teacher, although probably having some effects on those with uncertain career choice. This conclusion may be disappointing to those looking for a simple solution. It points out that the problem of teacher supply is society's problem. If teaching lacks prestige, it is because

TABLE 21

REPORTED SIGNIFICANT CHANGES IN TEACHER PREPARATORY PROGRAM SINCE 1961, RANKED BY FREQUENCY OF OCCURRENCE

California TPI's	Out-of-State TPI's
1. Course and curriculum changes in response to the Fisher Act	1. Internally initiated changes in courses and curriculum, including special education programs
2. Internship programs	2. Raising admission and continuance standards
3. Four-year minimum state credential programs	3. Internship programs
4. MAT Programs	4. Required academic majors for elementary candidates
5. New audio-visual construction methods	5. Five-year, MAT and Ph.D. programs
	6. All-University Teacher Advisory Committees

society communicates a low image of teachers to students.

> Two types of students enter teaching:
>
> Students who, in part due to early and lengthy positive experiences and influences, are in some sense almost predestined to teach and have reached the decision to do so by high school. Because of broad societal factors, i.e., teacher prestige, this first group is not large enough to provide an adequate supply of teachers.
>
> Students who are uncertain about their career choices at the beginning of college and enter teaching for reasons such as having a "fall back" occupation, as a means to another goal, or in order to make some decision.

Teacher shortages are related to prestige, with elementary teachers having lower prestige than secondary teachers. Secondary shortages occur in those fields where alternatives are most prestigious (mathematics and science) and where salary rewards in teaching are smaller than those possible in alternative careers. Salary, however, is only one of several factors which determine career prestige rankings.

Faculty advisors said that over half of their freshman advisees have tentative unrealistic career plans. Approximately 25% of the students we interviewed had no definite career plans, with changes in plans being quite typical.

About half of the faculty members believe that the current credential requirements have raised teacher prestige. The five-year education curriculum did not as a rule, they believe, cause students to choose other careers.

Informally transmitted advice and information has the strongest influence on students. Informal influences most often cited were word-of-mouth information (e.g., former roommates) or information from inspiring teachers. Very few students noticed information posted on bulletin boards.

Very few students reported having been interviewed or recruited by business. Students noted recruitment by U.S. Government programs and the Armed Services.

Students become interested in secondary teaching rather than elementary, because of the single subject matter involved.

Students become interested in elementary teaching, rather than secondary, because of the diversity of the subject matter involved, a fear of being able to control teenagers, and a fear of parental pressure.

Many students would prefer to teach in private schools for a number of reasons, the most common being their belief that they can obtain greater academic freedom there.

While 47% of California TPI's perceive teaching losses to other careers, out-of-state TPI's do not perceive significant losses. California TPI's attribute losses to industrial and business recruiting, loss of status and prestige for teaching, and the demands of military service. California TPI's perceive a shift from elementary to secondary enrollments and attribute this to the differential demands of credential requirements under the 1961 Certification Act and the attractiveness of secondary teaching salaries.

To encourage students to teach at the elementary level, both California and non-California TPI's tend to advise transfer and post-graduate students more often than any other action. A comparatively new practice for California is increased liaison between subject matter and educational faculties.

(b) Number of Teachers Being Prepared

The goal of obtaining sufficient numbers of teachers is theoretically separable from the question of how to train teachers, although the implementation of one goal tends to affect the implementation of the other.

Educators foresee shortages of elementary teachers, science and mathematics teachers, and vocational education or industrial arts teachers, both in the near and distant future.

Students interested in becoming teachers are expected to make up a constant proportion of the students at California TPI's.

Before 1962, about 60% of the education enrollment and credential candidates were prepared for elementary education. Since 1962 this proportion has tended towards 45%. Interviews with educators, estimates from a sample of TPI's and data from the National Education Association all agree on this trend, although differing somewhat in the quantification of it.

California and out-of-state TPI's expect an average annual increase in total teacher, preparing enrollments of 10% a year over the 1966-1967 enrollments, through 1975.

In this time period, out-of-state TPI's project about 40% of their education-preparing enrollment to be preparing for elementary teaching.

(c) Institutional Factors and Recommendations

California TPI's report significantly more difficulty in meeting their state's certification requirements than do out-of-state TPI's. Changes in philosophy and curriculum reported by California TPI's reflect an attempt to respond to these changing certification requirements.

Very few California TPI's report having formal institution-wide procedures for dealing with the over-supply of teachers in certain areas. This is not true of the out-of-state TPI's.

The problem of under-supply receives more attention than the problem of over-supply at California TPI's.

The communication of certification requirements to students is almost a universal practice for all the TPI's in our sample. Face-to-face presentation is favored for home state certification requirements, reference material for the communication of certification requirements of other states.

A majority of California and out-of-state TPI's take no specific steps to encourage their graduates to teach in the home state of the TPI.

There is evidence that California TPI's increase teacher supply by about 10%, by educating students prepared at out-of-state high schools for teaching.

California TPI's major complaints regarding certification changes center around the frequency of change, difficulty in interpretation, the divisive consequences for education and subject matter faculties, and placement problems.

The proselytizers to teaching careers are the education departments, certain community college personnel and the few teaching oriented liberal arts faculty. Subject matter faculty are typically neutral toward career choice although there is reported a growing realization of the college's responsibility to recruit and train teachers. In most departments, two or three faculty members are committed to and vitally interested in advising teaching candidates. The University has a greater emphasis than the CSC's on graduate school work and research.

Academic standards for teacher education are seen as having been raised. The 1961 Act is not seen as having any major effect on raising academic secondary teaching requirements, which remain much as they were before. The major effect is seen as an impingement on elementary requirements and thus removing the uniqueness of the requirements for elementary teaching and exposing elementary teacher candidates to the opportunity of becoming secondary teachers.

The most striking feature of the college advising system is the tendency for a few professors in a (subject matter) department to become the specialist(s) in advising students on teaching careers and requirements. These specialists are typically well-informed and sympathetic toward teaching as a career. Other professors are typically uninformed or unaware of needs and requirements.

The confusion and conflict associated with the changeover process has ameliorated. Things have settled down so that faculty who want to, know the major requirements for credentialling, know the shortage areas, and have taken steps to get on with the job of training students as teachers under the new rules.

Doubt exists among a variety of faculty observers about the appropriateness of the elementary curriculum for elementary teaching needs. This is a research opportunity that should be pursued.

Policy and action to increase the predestined group of students, become centered on the local school districts, since the crucial elements of attitude are formed from school experiences. We must encourage districts to make teaching more attractive relative to other careers, through treating teachers with respect, providing minimum standards of academic freedom, working at a solution to the eternal triangle -- parents, administrations, teachers -- providing mobility, minimizing bureacracy and paperwork, reducing the growing security and discipline problems, and making clear the role of the teacher in the subtle recruiting process that will influence the next generation's career choice. We also need to increase teacher supply through influencing the uncertain group to choose teaching. First we should rely on the strongest paths of influence -- the informal, word of mouth, peer groups. Second, the advising systems appear to need study and strengthening to enhance cooperation between education and liberal arts faculty, and also to increase the students' perception of the reliability and efficacy of the advising system.

B. OUT-OF-STATE TEACHER PREPARING INSTITUTIONS

The number of graduates of reporting out-of-state TPI's accepting teaching positions in California from 1961 through 1966 are shown in Table 22. Separate elementary and secondary totals are shown when supplied. Inputs to California increased from 1961 to 1965 but elementary inputs dropped in 1964-1965 to the 1961-1963 level. Secondary inputs show a slight drop in 1965-1966.

Data from superintendents indicate in Table 23 that a significant segment of teachers new to the districts in 1964, 1965, and 1966 were attending out-of-state colleges or universities the year previous to working in the district. There were 28% and 33% at the elementary and secondary levels respectively in this category. These percentages are second only to the category "attending a California college or university." The net value of this source of teachers could be fully evaluated only by longitudinally following the career pattern of teachers recruited from this source, to determine how well they teach and how long they remain in the teaching profession in California compared, for example, to California-educated teachers.

The bottom section of Table 20 shows the projections for the out-of-state TPI's sample. In general, these projections indicate a constant proportion of elementary candidates, about 41%, slightly lower than that for California TPI's, and slightly higher than the national percent for credential candidates in 1966, in Table 19.

The total projected enrollment picture for California and non-California TPI's is quite similar,as shown in Table 20. Both California and out-of-state TPI's expect an average yearly increase of 10% over the 1966-1967 enrollments.

TABLE 22

NON-CALIFORNIA GRADUATES TO CALIFORNIA
(N=24)

Graduation Category	Year 1961-1962	1962-1963	1963-1964	1965-1965	1965-1966
Total Elementary	112	105	141	126	108
Total Secondary	128	151	158	171	125
Elementary & Secondary	240	256	299	297	233
Undifferentiated	323	322	292	298	242
Elementary and Secondary and Undifferentiated	563	578	591	595	475

TABLE 23

STATUS DURING PREVIOUS SCHOOL YEAR OF FULL-TIME CERTIFICATED TEACHERS, NEW TO A DISTRICT, BY GRADE LEVELS AND EXPERIENCE

STATUS DURING PREVIOUS SCHOOL YEAR	EXPERIENCED		BEGINNING	
	ELEMENTARY	SECONDARY	ELEMENTARY	SECONDARY
Teaching in another district in California	53.9	48.3	4.0	2.4
Teaching outside California	26.1	40.2	1.0	0.0
Housewife	9.6	4.6	8.0	8.3
Engaged in a Non-Teaching Occupation	6.1	3.4	5.0	3.6
Attending California College or University	1.7	2.3	52.0	51.2
Other or No Response	1.7	0.0	2.0	1.2
Attending Out-of-State College or University	0.9	0.0	28.0	33.3
N =	115	87	100	84

C. EFFECT OF CALIFORNIA STATE CREDENTIAL REQUIREMENTS

1. History

As already indicated, the 1961 Certification Act broadened the requirements for an elementary teaching credential to make five years of preparation almost mandatory.

Institutional inertia and diffuse, decentralized and autonomous nature of the parts of the teacher education and teaching system have led to a slow and confused response to the Act. The lack of good up-to-date data may have contributed to the confusion. The parties at interest are diverse and autonomous. There is no central control of the entire teacher education system. There is considerable confusion remaining about requirements for different credential types. Table 24 shows the general types of credentials for teaching in California, and although it is simplified, indicates the complexity of the nomenclature.

2. Comments on Frequency of Changes

Many changes over the five-year period since the enactment of the 1961 Act, coupled with the complexities and differences among TPI graduation and teacher education requirements (and perhaps augmented by the sharpness of the conflict among some interest groups) have led to inaction (a wait and see attitude in some districts toward the Act rather than its implementation)slow action, and a state of confusion hindering student choice of teaching as a career.

Table 25 shows changes over time in elementary certification requirements for college classes between 1964 and 1969 inclusive. Both the actual (requirements in effect at the time the student graduated) and perceived (requirements in effect in a given year, which would influence the student at the time he made his decision are shown.

Table 26 indicates the types of difficulties in meeting new certification requirements reported by the 25 California TPI's who replied that they had experienced difficulty. "Frequency of change" ranks as the most frequently cited difficulty, followed by difficulties in "interpretation."

TABLE 24

GENERAL TYPES OF TEACHER CREDENTIALS IN CALIFORNIA SUGGESTED FOR CATEGORIES ON QUESTIONNAIRES FOR THIS STUDY

1. Old (Pre-1961 Certification Act)
   - a. Old type elementary "General elementary"
   - b. Old type secondary "General secondary"
"Special secondary"
   - c. Old type elementary provisional
   - d. Old type secondary provisional

Issued until
September 15, 1966

2. New (Post-1961 Certification Act)
   - a. Standard elementary provisional
   - b. Standard secondary provisional
   - c. Standard elementary, life
   - d. Standard secondary, life
   - e. Standard elementary, partial fulfillment*
   - f. Standard secondary, partial fulfillment

New credentials
Initiated
January 1, 1964

---

* The difference between Provisional and Partial Fulfillment is that credentials in partial fulfillment are issued to persons who have done student teaching, while those granted provisional credentials may not have done this. Both require further formal training in order to receive standard, or full credentialling.

TABLE 25

ELEMENTARY SCHOOL TEACHER CERTIFICATION REQUIREMENTS, ACTUAL AND PERCEIVED(d) AT THE TIME

ACADEMIC YEAR

Graduating Class	1960 1961		1961(a) 1962		1962 1963		1963(b) 1964		1964 1965		1965(c) 1966		1966 1967		1967 1968		1968 1969		1969 1970	
	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P
'64 Requirements	Old	Old	Old	Old	Old	Old	Old	Old	→	→	→	→	(Sept.14,1966)		*New	→	→	→	→	→
Yrs. of Grace	NA	NA	NA	NA	NA	NA	NAg	NAg	NA	NA	NA	NA	7	7	→	→	→	→	→	→
'65 Requirements			Old	Old	Old	Old	Old	Old	Old	Old	→	→	(Sept.14,1966)		New	→	→	→	→	→
Yrs. of Grace			NA	NA	NA	NA	NA	NA	NAg	NAg	NA	NA	7	7	→	→	→	→	→	→
'66 Requirements					New	New	New	New	New	New	New	New	New	New	→	→	→	→	→	→
Yrs. of Grace					None	None	7	5	7	5	7g	7g	7g**	7g	→	→	→	→	→	→
'67 Requirements							New	New	New	New	New	New	New	New	New	New	→	→	→	→
Yrs. of Grace							7	5	7	5	7	7	7g	7g	7g	7g	→	→	→	→
'68 Requirements									New	New	New	New	New	New	New	New	New	New	→	→
Yrs. of Grace									7	5	7	7	7	7	7g	7g	7g	7g	→	→
'69 Requirements											New	New	New	New	New	New	New	New	New	New
Yrs. of Grace											7	7	7	7	7	7	7g	7g	7g	7g

* Assumes have reached Junior standing by November 1963 and enrolled in college at that time.

** Much of the class of "1966" actually leaves college in June 1967, because of 5 year requirement.

(a) Fisher Act is passed in 1961; mandates 5-year college requirement for teaching credential.

(b) California State Board of Education passes regulation that under some circumstances, teachers may receive a regular credential with partial fulfillment of requirements, with a 4-year Bachelor's Degree and stated intention to obtain fifth year's credits within 5 calendar years.

(c) Rodda Act is passed on September 17, 1965. Allows 7 year grace period. Mandates California colleges and universities to provide a four year course leading to a Bachelor's Degree, with student teaching done within the four years.

(d) See text.

A = Actual P = Perceived at the time.

g = Possible graduation.

TABLE 26

CALIFORNIA ONLY:
TYPES OF DIFFICULTIES IN MEETING NEW CERTIFICATION REQUIREMENTS

Rank and Percent Indicating[a]	Type of Difficulty
1. 44%	1. Frequency of change
2. 40%	2. Interpretation
3. 24%	3. Course and program problems
4. 16%	4. Administrative problems
5. 12%	5. Staffing problems
6. 8%	6. Other

[a] Percentage of the 25 TPI's indicating difficulty. Percents may not sum to 100% because more than one difficulty may be indicated by a single institution.

3. Comments on Substantive Changes

a. Responses to the 1961 Certification Act

Table 27 shows the distribution of responses to the 1961 Act. The modal responses are:

(1) Education faculty: Mixed or negative

(2) Subject matter faculty: positive

(3) Administration: neutral

(4) Placement: negative

A number of selected comments illustrating the modal response to the 1961 Act for each of the four groups are presented below:

(1) Education faculty:

"Positive except for the distinction made between the academic and non-academic disciplines and the seeming attempt to limit professional education. We all feel that a philosophy of neo-scholasticism which seems basic to the Fisher Act is not an appropriate philosophical stance for teacher education. This causes two unrealistic developments: (1) A sharp distinction between intellectual activity. To illustrate. Engineering is considered non-academic as is speech therapy, drama, certain aspects of music, art, physical education and others. (2) the emphasis upon intellectualism tends to eliminate a consideration for the humanistic aspects of education."

"First, they felt it was an unwise, and unnecessary intrusion into our college program and prerogatives by the state legislature and the state school board. Second, they accepted it as law, and have made every possible effort to fulfill the requirements of the law."

"Resented the failure of the legislature to accept professional advice, especially proposal from California Council for Education of Teachers."

"Generally, the older faculty members were disturbed but the newer faculty members saw opportunities."

"Questioned research base for this act."

"Agreement in principle but concern over timing, specifics, and political rather than professional approach to change."

"Dismay - and some anger - both based on disregard of survival needs in the elementary school classroom."

TABLE 27

RESPONSES TO THE 1961 AND 1965 CERTIFICATION ACTS

1961, "Fisher Act" On the Part of:	Negative		Mixed		Positive		Neutral		Total	
Education Faculty	11	30.5%	14	38.9%	6	16.7%	5	13.9%	36	100%
Subject Matter Faculty	3	8.3%	7	19.4%	18	50.0%	8	22.2%	36	100%
Administration	10	27.8%	3	8.3%	10	27.8%	13	36.1%	36	100%
Placement	17	47.2%	3	8.3%	6	16.7%	10	27.8%	36	100%

1965 "Rodda Act" On the Part of:	Negative		Mixed		Positive		Neutral		Total	
Education Faculty	10	27.8%	5	13.9%	14	38.9%	7	19.4%	36	100%
Subject Matter Faculty	8	22.2%	3	8.3%	5	13.9%	20	55.6%	36	100%
Administration	4	11.1%	3	8.3%	7	19.4%	22	61.2%	36	100%
Placement	5	13.9%	2	5.6%	12	33.3%	17	47.2%	36	100%

"General satisfaction with the purpose and academic emphasis of the Fisher Act, strong dissatisfaction with the regulations of the State Board of Education implementing the Act."

"Basic idea good - most of our people resented the way it was implemented."

"Resentment at the Legislator's encroachment upon the academic freedom of the University."

(2) Subject-Matter Faculty:

"Enthusiastic endorsement."

"Fairly well pleased to think that undergraduate years would not be impinged upon for professional work."

"...they were overjoyed; thought it was high time someone did in the educationists."

"Almost totally in favor of the Fisher Act."

(3) Administrative Staff:

"They felt that many provisions of the law moved into areas which for several centuries had been within the province of the college and university rather than in the hands of politicians (such as the exact stipulation of courses)."

"Determined to follow the letter of the law."

"Detachment."

"Confused and a little disgruntled because of aftermath of shifting impinges on the responsibility of the University."

"Experiencing difficulty with the task of interpreting transcripts from other institutions in light of the new credential regulations. In particular, eastern colleges (Cornell, Bryn Mawr, etc.) do not distinguish upper from lower division units."

(4) Placement Personnel:

"Made recruitment more difficult."

"Dilemma - Apparent abandonment of interest in teacher education on part of many academic departments vs. requirement which concentrates professional education (and student advising by Education Department) in the fifth year. Result is dearth of cooperation between subject fields and Education Department."

"...felt it favored the out-of-state candidates over our own. Felt that the major philosophy was good, but also felt that people have to learn how to teach. It was written by laymen, and people in teacher training institutions had very little to say about the law. Consequently, the result was felt to be unworkable."

"Chaotic confusion on the part of employers, future teachers and teachers created conditions that kept some from going into or returning to teaching."

"The confusion caused by the Fisher Bill has been colossal. The idea of the Fisher Bill is approved in general, but exceptions and pronouncements by the State Board of Education make counseling of students most difficult."

In general, the 1961 Act appears to have provoked a wide range of responses, many quite emotionally strong. Further, it has had decisive influence on the relationship between education faculties and subject matter faculties. Subject matter faculties tend to favor the Act, while education faculties are either against it or exhibit mixed reactions to it.

b. Information from TPI Surveys on Responses to the 1965 Certification Act

The reactions to the "Rodda Act" are somewhat different, as might be expected. The bottom section of Table 27 illustrates these reactions. In general, the Rodda Act generated a mirror image of the Fisher Act responses for the education faculties. The other three groups tended to move to a neutral stand. The modal responses are as follows:

(1) Education faculty: positive or negative

(2) Subject matter faculty: neutral

(3) Administration: neutral

(4) Placement: neutral or positive

In short, the Rodda Act tended to polarize feelings much more clearly than did the Fisher Act, where reactions were much more heterogeneous between the four groups. However, it is clearly divisive within the education faculty group. Illustrative modal responses are:

(1) Education Faculty

"Surprise. Slow realization that the Rodda Act had greatly changed teacher education requirements. Confusion. We had just worked hard and long to submit proposed programs for accreditation, and were accredited to fit the Fisher Bill. Now, where do we stand on accreditation? Or should we follow the Rodda Bill? As of this date we are not yet fully certain."

"Those who resented the Fisher Act saw an opportunity to return to the 'good old days.' Those who saw opportunities in the Fisher Act were disturbed by the Rodda Act."

"Some have felt that the 'Fisher' standards were subverted by the Rodda Act. Others have the hope that the mandatory four-year Rodda program will alleviate the elementary shortage."

"Relieved, but embarrassed. Had to face faculty and explain the retreat from Fisher Bill."

"Very good for elementary."

"Retreat!"

(2) Subject-Matter Faculty:

"But I thought you said...? Why can't they make up their minds?"

"Unconcern."

"Do not seem to know about this act."

"I doubt whether they can fully distinguish between the Fisher Bill and the Rodda Bill."

"Few knew the Act was passed."

(3) Administrative Staff:

"In cooperation with the Education faculty they decided to wait a while to see what would happen before they made any changes."

"Accepts, but with reservations and a feeling that the attempt to get better prepared classroom teachers has been sabotaged."

"Unconcern."

"Acceptable."

(4) Placement Personnel:

"Eased recruitment."

"No response of note."

"Unconcern."

c. Information from TPI Faculty Interviews

Faculty interviews reflected a high degree of agreement in seeing academic standards for teacher education as having been raised by the current credential regulations.

Eleven so affirmed to 3 negatives, among subject matter faculty.

Five so affirmed to 3 negatives, among education school faculty.

There were a number of qualifying remarks by faculty respondents. Several noted other factors, such as already established trends or other faculty actions as contributing to or being more important than the Certification Act in raising academic standards. Many respondents noted that the change in standards was less or nonexistent for secondary education.

Others noted that the academic standards overall may have gone up, but that in terms of a teacher-product the level of training is lower. For instance:

> "A teacher of high school chemistry under the new regulations who has a chemistry minor is less well trained than an old type 4-year chemistry major."
>
> "An elementary teacher who has a new type subject matter major may have missed academic training in some of the subjects she is to teach."

In spite of the general agreement on raised academic standards, education faculty (6 out of 8) believe the new requirements have not raised the prestige of teachers. Subject matter faculty were evenly split (7-6) on this point.

A typical comment reflecting the indecision was, "Status and prestige cannot be legislated", or, "There is no connection between the Fisher Bill and the raising of teacher prestige."

No doubt, the battle over the Certification Bill has left scars among the faculty, as indicated by the tone of many such remarks. This is further reflected in the dichotomy of the answer as to whether colleges are now turning out better trained secondary teachers. Subject matter faculty say yes, 11 to 3; and Education school faculty report no, 4 to 2, in a flat quantitive answer to the question.

The predominant response was that the new law and regulations did not affect secondary requirements. Many college teachers feel that where the new regulations are operative, say in social sciences, the results are good and better trained teachers are turned out. But in shortage subject matter areas, there has been a shift toward discouraging the potential teacher of mathematics and science from majoring in these subjects since these majors are almost totally designed for the person who intends to become a professor in the field, and not for the prospective teacher. There was disagreement about whether the colleges now turn out better elementary teachers. This underlines the uncertainty among faculty as to what kind of education makes a good elementary teacher. Subject matter faculty were as concerned as education faculty members that the academic major requirement is inappropriate to the needs of the potential elementary teacher and the schools. This is a subject for further research.

d. Effects on Career Choice (Career Choice Interviews)

There appears to be no simple answer by faculty members to the question of the effects of the 1961 Certification Act, as amended, on career guidance. A period of confusion and adjustment has now been completed, as the training of teachers under the pre-1961 arrangements has passed. A new stability based on the new set of circumstances unconfused by two sets of rules, seems to have emerged.

Education school faculty in particular were aware of and intimately (often personally) affected by difficulties in the transition to new standards and regulations. Five out of our eight education faculty interviewees cited difficulties. At the extreme, one man felt personally responsible for having advised elementary candidate students poorly during the period of rapidly changing regulations. (The poor advice was based on changed requirements, not poor judgment, according to the respondent.)

On the other hand, among the three reporting that the 1961 Bill/Board of Education requirements resulted in "less difficulty" in giving career guidance, there were comments that the major factors in teacher education were independent of the Act. "We are changing our programs to meet new conditions" as one professor said. Or, "new innovative programs financed by foundation or federal money are the impetus for change."

Almost all faculty members perceived the shift out of elementary and into secondary candidacy. Education faculty were apt to report dissatisfaction which centered on:

a. The 5-year requirement

b. The subject matter major

Four out of eight education faculty cited dissatisfaction among elementary teacher candidates with the subject matter major. Some said the students had trouble with a choice of major; often this was coupled with student concern about teaching many subjects with a limited subject matter background in some parts of the elementary curriculum. The students were often described as lacking confidence to teach elementary level with the subject matter major type training described and "narrow and deep."

Six out of 8 education faculty cited student dissatisfaction with the 5-year requirement. Dissatisfaction was insufficient, however, to cause many students to alter their education plans. Only 2 out of 8 faculty noted dissatisfaction with the specific mathematics requirement among student advisees.

Only the subject matter requirement was cited as causing a shift out of elementary. (Other dissatisfactions are thought to be present but not to cause action.) Some students, once exposed to the subject matter, choose to stay with it either because they like it or because they feel more confidence in teaching something they know in depth, or for both reasons. However, no students were perceived to have left teaching altogether because of the 1961 Bill requirements.

We noted an "escape hatch" from elementary to social science majors. Frequently the student interested in elementary teaching has an inter-departmental social science major and is expected to become an applicant for an elementary credential although the statistics do not always show this. One college in fact, has designed its social science major consciously and purposefully for the elementary trainee. Students in this program are advisees of the elementary education department as well as the social science department.

The subject matter faculty differ significantly from their education department confréres in perception of teacher candidate dissatisfaction. Five out of sixteen noted dissatisfaction with subject matter requirements. Three out of sixteen noted dissatisfaction with the five year requirement.

The students we talked to were mostly affected by post-1961 Bill standards. They, too, while discussing dissatisfactions and noting that older students had been affected by the changeover, were not greatly concerned about the 5-year and subject matter requirements.

In order to focus on the effects of satisfaction, we asked faculty about their students who were vacillating among career choices. About two-thirds of the faculty members interviewed (who felt they knew) did not think students, as a rule, choose other careers over teaching because of the length of schooling required. This was reported by both educational and subject matter faculties in about the same proportion. Following are some typical comments:

> "If a student shifted to another career because of the five-year requirement, it was because the student did not know the loopholes." (This professor did not think the fifth year had any effect.)

Another professor, who was with the minority said that some students were pushed out of teaching by the 5th year.

> "There really is a small difference in graduation and credential requirements. Students can go either way until the very end of their college careers."

Another professor said:

> "Most students expect to spend 5 or 6 years in training for any career."

Supplementing the observation that length of course was not a determining factor, faculty members overwhelmingly reported (11 to 2) that the higher number of unit requirements for "non-academic" subject matter majors in some schools (in areas such as industrial arts, home economics, etc.) did not discourage entry into these fields.

e. Effects as Seen by School Districts

The top section of Table 28 shows that the frequency of changes in credential requirements were indicated by 76% of responding superintendents as likely to have a negative effect on the supply of K-6 teachers. One third indicated a negative effect on the supply of grade 7-12 teachers. None judged a positive effect on K-6 supply; seventeen percent on 7-12 supply.

We see in the bottom section of Table 28 that, almost without exception, the superintendents who responded to the questionnaire were of the opinion that the new credential requirements would decrease the supply of K-6 level teachers. Only 7% of those responding felt that there would be no effect on the supply. None felt that there would be an increase in supply.

The distribution of responses related to the effects of credential requirements on the supply of 7-12 level teachers was quite different. About 12% of those responding felt that an increase in the supply would take place. Only 33% indicated that they felt a decrease would occur while 14% felt that no effect on the supply would result.

Table 29 shows that considerable portions of the K-6 teachers beginning between September 1965 and September 1966 had full pre-1961 Act credentials, 1961 Certification Act credentials on partial fulfillment, or provisional 1961 Act credentials. Many of the grade 7-12 new hires held the first two kinds, almost none the third, and many hold 1961 Act Standard credentials. Fifty-five percent of K-6, and 61% of 7-12 level new hires, came in with permanent standard credentials.

TABLE 28

JUDGMENTS OF SUPERINTENDENTS

On Effects Upon Teacher Supply of Frequency of Changes in Credential Regulations, by Grade Level

EFFECT	K-6	7-12
	%	%
Marked Increase in Supply	0.0	6.2
Some Increase in Supply	0.0	9.9
No Effect on Supply	5.0	17.3
Some Decrease in Supply	22.2	18.5
Marked Decrease in Supply	54.3	12.3
No Response	18.5	35.8
N =	81	81

On Effect of Standard Credential Requirements Upon Ability to Recruit Enough Teachers, by Grade Levels

EFFECT	K-6	7-12
	%	%
Marked Increase in Supply	1.2	5.0
Some Increase in Supply	1.2	7.4
No Effect on Supply	7.4	13.6
Some Decrease in Supply	35.8	27.2
Marked Decrease in Supply	37.1	6.2
No Response	17.3	40.7
N =	81	81

TABLE 29

PERCENTAGE OF TEACHERS SIGNING CONTRACTS FOR FIRST TIME IN A DISTRICT, BY CREDENTIAL TYPE & GRADE LEVEL

TYPE OF CREDENTIAL	K-6 %	7-12 %
Pre-Fisher Act, Full (Old Type)	45.1	40.9
Fisher Act, Partial Fulfillment	23.8	36.0
Fisher Act, Provisional	20.5	2.2
Fisher Act, Standard, Life	9.9	20.7
Pre-Fisher Act, Provisional (Old Type)	0.7	0.2
N =	2,555	1,747

4. Inferences About Effects on Number of Teachers Graduating in California

a. Information from Background Interviews

How are teacher education institutions carrying out the higher academic standards prescribed by the 1961 certification law and the regulations implementing that law?

Our interviews suggest the efforts can be classified as enthusiastic, slow but sure, or reluctant.

The enthusiastic groups seem to fall into three parts:

One campus believed that its pre-1961 standards were better than the law required. It had to make the minor change of increasing the span of elementary teaching education from 4 1/2 to 5 years. Its Intern Program was already established.*

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* The Intern Program was designed to attract and train those college graduates who had received no teacher education during college.

Another group of campuses view the change as the opportunity to become a graduate school with professional standards and objectives. This is viewed as significant upgrading. These people are carrying out the intent of the Act and like it.

Yet other colleges maintained that standards had not been raised, that extra hours cannot be equated with higher standards, which can only be attained by demanding higher performance of students.

One man said, "We follow the Title 5 regulations explicitly. The Fisher Bill didn't increase academic standards; it just gave us an opportunity to train better teachers. The 1961 legislation calling for five years was to accomplish the task of putting out teachers better prepared to teach in the elementary grades."

Other campuses we visited are in the "slow but sure" category. Neither enthusiasm nor complaints were evident. Rather, the interviewers cited specific but limited moves to implement better liaison and cooperation between subject matter and education faculties -- some education methods courses were taught in subject matter departments.

The All Campus Teacher Education Committee was often cited. In one instance, the Committee was termed "in limbo". In another it was being reactivated in order to set campus policy and reestablish communications among campus departments.

At one campus, interdepartmental majors were being developed and approved. Three were approved and operational this year. One was being worked on. Two could not be brought to fruition due to subject matter department disagreement.

Reluctance or no perception of change seems to characterize some TPI's. Bitterness about past changes and current philosophy still dominate the attitudes of some people. Even here, however, new programs to overcome perceived shortages are in evidence.

In summary, the efforts of the CSC system to develop its new policy on teacher education should be cited as encouraging. The California State Colleges have an Associate Dean primarily concerned with the teacher education programs.

b. Data from TPI Surveys

Table 30 shows that incorporation of the 1961 Act requirements into the curriculum was staggered over the period 1961-1966 for both elementary and secondary candidates.

Table 31 shows that many TPI's instituted 1961 Bill provisions for the class entering September 1962, and many others for that entering

TABLE 30

YEAR WHEN FISHER ACT REQUIREMENTS INCORPORATED IN CURRICULUM

	Candidates for:			
Year	Elementary		Secondary	
1961-1962	5	17%	4	15%
1962-1963	9	30%	7	26%
1963-1964	9	30%	8	30%
1964-1965	5	17%	7	26%
1965-1966	2	7%	1	4%
Totals	30	100%	27	100%

TABLE 31

CLASS FIRST REQUIRED TO SATISFY FISHER ACT REQUIREMENTS

	For Certification In			
Class Entered as Freshmen In	Elementary Teaching		Secondary Teaching	
1959	2	6%	5	16%
1960	4	13%	5	16%
1961	11	35%	10	31%
1962	12	39%	10	31%
1963	2	6%	2	6%
Totals	31	100%	32	100%

September 1961. Such piecemeal implementation would decrease the number of teachers graduated in June 1966, insofar as some members of the 1962 entrants would graduate in June 1967. This implies a temporary, and temporary only, drop in teacher supply. The 1962 entrants who did not graduate in 1966 would help raise the June 1967 output. The normal number would graduate in 1968.

Finally, what of four-year programs for minimal certification? We have already mentioned that 42% of the California TPI's surveyed do not offer such programs. Only 3 of the 15 not offering such programs have them under development.

5. Effect on Costs

Most districts could not answer how much was added to annual budget requirements, attributable to the five-year credit requirement for elementary teachers. Twelve percent of the districts reported an increase between \$5,000 and \$10,000 attributable to this requirement. Other additional cost ranges were spread over a small number of districts each.

D. DISTRICT CHARACTERISTICS AND POLICIES

1. Heterogeneity

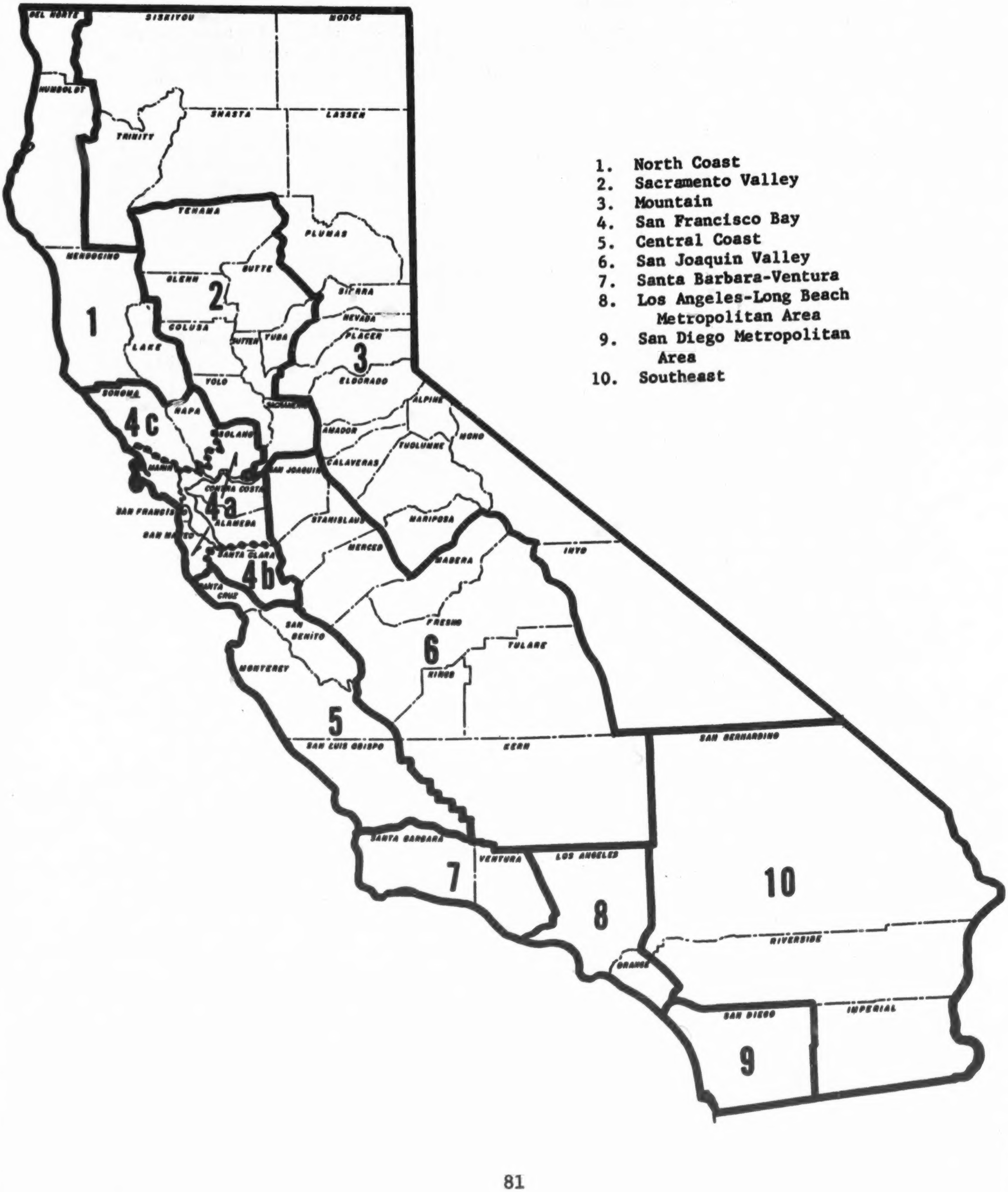
In order to understand the problem of teacher shortages, we must view it in terms of the segments in which shortages occur. Responses from both teachers and TPI personnel suggest that the supply and demand of teachers is highly segmented geographically. TPI graduates tend to accept teaching jobs in the immediate area of their college. There may sometimes be a pre-selection process here, in that students select the area in which they eventually want to teach before selecting the school they attend, or attend a college near their homes. Although some college placement personnel stressed the wide geographic spread of school districts recruiting their students, most placements were typically within the immediate vicinity of the TPI.

Background interview respondents suggested that the physical, social and cultural characteristics of an area were important in teacher supply and demand. Areas like the rural Central Valley and rural and isolated coastal or mountain areas have more difficulty than urban areas in obtaining teachers. Culturally deprived areas are also reported as having difficulty in attracting teachers.

In Figure 1, based on California Statistical Areas, we have set up 10 regions, to be used in analysis. In defining these, we took into account the locations of the California State Colleges, the major suppliers of teachers to school districts, demographic and cultural factors.

FIGURE 1

CALIFORNIA STATE STATISTICAL AREAS


DEL NORTE
SISKIYOU
MODOC
HUMBOLDT
TRINITY
SHASTA
LASSEN
TEHAMA
PLUMAS
MENDOCINO
GLENN
BUTTE
SIERRA
NEVADA
PLACER
COLUSA
SUTTER
YUBA
LAKE
YOLO
ELDORADO
SONOMA
NAPA
SACRAMENTO
ALPINE
MONO
SOLANO
AMADOR
TUOLUMNE
MARIN
SAN JOAQUIN
CALAVERAS
CONTRA COSTA
SAN FRANCISCO
ALAMEDA
STANISLAUS
MARIPOSA
SAN MATEO
SANTA CLARA
MERCED
MADERA
INYO
SANTA CRUZ
SAN BENITO
FRESNO
TULARE
KINGS
MONTEREY
SAN LUIS OBISPO
KERN
SAN BERNARDINO
SANTA BARBARA
VENTURA
LOS ANGELES
ORANGE
RIVERSIDE
SAN DIEGO
IMPERIAL
1
2
3
4c
4a
4b
5
6
7
8
9
10

1. North Coast
2. Sacramento Valley
3. Mountain
4. San Francisco Bay
5. Central Coast
6. San Joaquin Valley
7. Santa Barbara-Ventura
8. Los Angeles-Long Beach Metropolitan Area
9. San Diego Metropolitan Area
10. Southeast

The differences among locations make themselves felt quite critically in determining shortages. One expression of shortages in 1966-67 is the number of new provisional credentials issued for that school year for each district. Such credentials were issued to 988 1/2 teachers.* Three hundred and thirty-one, or one third of these, were issued to teachers in the Los Angeles City Unified School District. In contrast, Los Angeles employs only about 15% of the teachers in the state.

In summary, the analysis of teacher shortage must be segmented to reflect accurately the factors discussed above and the true areas of shortage. Too often state-wide data, as currently formulated, are more apt to obscure than to reveal these meaningful differences.

2. Experienced vs. Inexperienced Teachers

For budgetary reasons, some districts prefer to hire inexperienced rather than experienced teachers. (We have in our possession a letter from such a district to an applicant.) Though understandable in fiscal terms, this policy has some unfortunate by-products. The first year of teaching is difficult and first-year teachers are reported as concerned with their suitability for teaching. Educators report a weeding out process based on student personality characteristics. Thus, the policy which gives preference to inexperienced teachers tends to increase attrition.

District policies which differentiate between experienced and inexperienced teachers also relate to salary and recruiting sources which will be discussed below.

3. Administrative Personnel

Although administrative background and experience are a general requirement for personnel administration people, the requirement for specific training in personnel administration is notably low for the responding districts. Table 32 shows that only 21% of the districts indicated such a requirement and this covered two categories, one with teaching experience and/or training as an adjunct, the other without such experience or training. At the same time, two categories of administration experience and training, one with the adjunct experience and training, the other without, comprise 45% of the responding districts. Data on actual experience and training are similar to those on requirements. The school personnel administrator's actual and required characteristics could be a function of the size of the district. Faced with

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* Memorandum from Max Rafferty to State Board of Education, Subject: Persons Employed on New Provisional Credentials for the 1966-67 school year, December 6, 1966.

3

TABLE 32

SPECIALIZED TRAINING REQUIRED OF DISTRICT PERSONNEL ADMINISTRATION STAFF

TRAINING REQUIRED	FREQUENCY OF RESPONSES %
None, but Utilize Former Teachers	5.2
Utilize Former Teachers but Require Training in Personnel Administration Techniques	8.3
Utilize Professional Personnel Administrators with at Least Teacher Training in Background	6.3
Professional Education Administration Experience and Training	27.1
Professional Personnel Administration Experience & Training	6.3
Professional Administration Experience & Training	17.7
No Response	27.1
N =	81

---

a decision, because of size, of choosing between a general administrator or a specialized type of administrator, a district will in all likelihood, and probably rightfully so, choose the administrator with the broader experience. However, if this is not solely a function of size, and is in fact, a more general policy, it would appear from some of the problems underlying attrition, discussed below, that such a policy should be carefully reviewed for its efficacy. Unfortunately, in many cases, and education is no exception, personnel administrators are in that position through default instead of by training. Personnel administration is often described in organizations other than schools as the repository for the members of the organization who have performed well but are past the usually defined productive stage. The evidence presented here at least calls for the necessity to review personnel policies and practices in relation to the types of training and experience required of personnel administrators.

4. Salary

The majority of responding districts show a small range of differences in starting salary for teachers. Sixty percent of the districts in Table 33 have starting salaries within a one-thousand dollar range -- $5000 to $6000 annually. If this range is extented by five hundred dollars to $6500 as the upper limit of the range, it includes 71% of the districts. From a starting salary standpoint a majority of the districts in our sample are relatively competitive.*

TABLE 33

PERCENT OF DISTRICTS REPORTING
STARTING SALARIES WITHIN GIVEN RANGES

STARTING SALARY	% OF DISTRICTS IN RANGE
$4,500 - $4,999	7.4
$5,000 - $5,499	33.3
$5,500 - $5,999	27.2
$6,000 - $6,499	11.1
$6,500 - $6,999	0.0
$7,000 - $7,499	2.5
$7,500 and Over	0.0
No Response	18.5
N =	81

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* Our sample's overrepresentation of large districts makes these data somewhat difficult to generalize to the population.

However, the range between the starting and maximum salary presents an entirely different picture, which will especially affect the career-oriented teacher. Differences between starting and maximum salary in Table 34, range from $2900 to $6000 and above. None of these range categories has fewer than 6% of the responses and none over 20%. The combinations and permutations possible between starting salary and salary range in the districts is beyond the scope of this discussion. However, discussion of two of the combinations should serve to illustrate the implications for retention of teachers.

A district located on the lower end of the starting salary scale, within which the majority of starting salaries fall, may have one of the broader salary ranges and represent a real possibility for salary upgrading, thus putting them in a favorable recruiting position. At the same time, a district on the higher end of the starting salary range but with a narrow salary range within the district may be negating the advantage that the higher starting salary would seem to give. It seems evident that districts should, when they review their salary structure, give equal attention to the matter of salary range and the matter of starting salary.

TABLE 34

PERCENT OF DISTRICTS REPORTING GIVEN DIFFERENCES IN THOUSANDS OF DOLLARS BETWEEN STARTING & TOP SALARY

SPREAD BETWEEN START & TOP SALARY IN THOUSANDS	% OF DISTRICTS IN THE RANGE
2.0 - 2.9	6.2
3.0 - 3.9	9.9
4.0 - 4.4	14.8
4.5 - 4.9	18.5
5.0 - 5.4	11.1
5.5 - 5.9	7.4
6.0 and Over	13.6
No Response	18.5
N =	81

Three quarters of the districts have a higher salary scale for teachers with five years of college or post-bachelor credits than for those with four years of college.

5. Elementary vs. Secondary Teachers

Two measures of district policy for elementary and secondary teachers revealed no outstanding differences. The average number of classroom hours required at each level is substantially the same with requirements for a third of the responding districts between 26 and 30 hours weekly and for three quarters between 21 and 40 hours.

The factors involved in assignment and reassignment of teachers likewise show no substantial differences between the grade levels, as seen in Table 35. If secondary teachers view their work as requiring substantially more training and experience than that in the elementary level, and this view is accurate, this lack of differentiation in assignment policies could be the source of some discontent and improper assignment. The actual effect of these policies should be explored.

TABLE 35

FREQUENCY OF RESPONSES TO GIVEN CATEGORIES GOVERNING ASSIGNMENT OF TEACHERS, BY GRADE LEVELS & RELATIVE TIME IN DISTRICT

CATEGORIES	ELEMENTARY New %	ELEMENTARY Old %	SECONDARY New %	SECONDARY Old %
Stated Preference of Teacher	22.9	22.8	20.8	19.5
Seniority in District	16.1	21.9	12.8	19.5
School Requirements & Related Experience & Educational Background	24.4	22.4	22.5	20.5
Principal's Preference	23.4	21.5	20.8	19.5
No Response	13.2	11.4	23.1	21.0
N =	205	228	178	195

6. Recruitment

A requirement for professionally trained recruiters, as in the case of personnel administrators, does not appear to have very high priority in the policy of the districts. Only 15% of the responding districts indicate a requirement for professional recruiters. By far the largest percentage, 30.9, of the districts have no experience or training requirements other than teaching. The current recruiting staff in 44% of the responding districts do have some experience or training. This, of course, could well be a function of experience in the district that they actually entered under the policy of no experience required. Forty-one percent of the districts returning Superintendents' Surveys did not respond to the question on recruiters' requirements; 46 percent did not respond to that on recruiters' experience. If the districts returning Surveys were representative by size of those in the state, we expect that even a smaller percent would show evidence of concern with the training of recruiters. Recruiting being as highly specialized and certainly as highly competitive as it is today should not be left to fortuitous circumstance, if a district wishes to remain competitive.

Again, as with the professional personnel administrator, it is recognized that size of district may dictate toward a choice of the generalist. However, it would appear that if size does exert such an influence, some consideration should be given to the possibility of consolidation among districts of functions like these which require a high degree of specialization and training. There would, of course, be some problems of coordination, but they should not be nearly as serious as those which are possible through the use of untrained and inexperienced personnel. It seems safe to assume that none of these districts would use untrained teachers. The utilization of untrained personnel as recruiters and personnel administrators can create problems of the same order of magnitude, although in a different dimension, as the use of untrained teachers.

There appears to be a considerable degree of incongruity between recruiting sources and the prior status of new teachers in a district. This tends to reinforce the comments made above about the use of professional recruiting and personnel administration personnel.

In Table 36* we see that 54% and 48% respectively of the new experienced elementary and secondary level teachers were teaching in another district in California the year before starting in their current district. In Table 37, we see that unsolicited applications are the primary source for 35% and 30% respectively of these levels. This is not unexpected. However, 26% and 40% respectively of these levels held teaching positions outside California the year prior to their employment in the district. Professional meetings and professional journal advertising represent only 2% and 4% respectively of the primary for these groups. This seems incongrous unless California districts have some other outstanding means of communicating their vacancy requirements to experienced teachers outside the state. Thirty-eight percent and 43% respectively of these same two groups were recruited through college placement offices, county school placement offices, or campus recruiting. It would appear that fortuitous circumstance plays a large part in the recruiting of experienced teachers, much of which is probably the initiative of the teachers themselves.

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* Table 36 is based on information about a very small minority of the teachers hired in the sample of districts.

The majority of the inexperienced teachers at both levels, 54% and 53% respectively, were attending colleges or universities the year prior to employment by the district. However, for the elementary level, college placement offices and campus recruiting are primary sources for 41% of the districts. The same mechanisms are primary sources for secondary level beginning teachers for 60% of the districts. It appears that recruiting generally is either accomplished in the obvious places or left largely up to chance.

It has been suggested that the extreme reliance on self-initiated applications and those forwarded through other informal sources is legitimate, mediated by the high applicant/vacancy ratios of most districts, and the closeness of many districts to TPI's. This point of view is difficult to reconcile with the elementary teacher shortage perceived by California educators, which, as we shall show below, is a major one.

TABLE 36

STATUS DURING PREVIOUS SCHOOL YEAR OF FULL-TIME CERTIFICATED TEACHERS, NEW TO A DISTRICT, BY GRADE LEVELS AND EXPERIENCE

STATUS DURING PREVIOUS SCHOOL YEAR	EXPERIENCED		BEGINNING	
	ELEMENTARY %	SECONDARY %	ELEMENTARY %	SECONDARY %
Teaching in another district in California	53.9	48.3	4.0	2.4
Teaching outside California	26.1	40.2	1.0	0.0
Housewife	9.6	4.6	8.0	8.3
Engaged in a Non-Teaching Occupation	6.1	3.4	5.0	3.6
Attending California College or University	1.7	2.3	52.0	51.2
Other	1.7	0.0	2.0	1.2
Attending Out-of-State College or University	0.9	0.0	28.0	33.3
	N = 115	87	100	84

TABLE 37

PERCENTAGE OF RESPONSES TO GIVEN CATEGORIES AS PRIMARY RECRUITING SOURCES FOR EXPERIENCED AND INEXPERIENCED TEACHERS, BY GRADE LEVELS

RECRUITING SOURCE	EXPERIENCED ELEMENTARY		BEGINNING ELEMENTARY	
	ELEMENTARY	SECONDARY	ELEMENTARY	SECONDARY
	%	%	%	%
Unsolicited Applications	35.4	30.1	17.8	14.1
Personal References (Staff & Community)	19.8	15.0	15.8	12.8
College Placement Offices	16.7	20.4	26.7	43.6
County School Placement Offices	15.7	12.9	13.9	5.1
Campus Recruiting	6.3	9.7	14.8	16.7
Other	3.1	1.1	4.0	3.8
CTA Placement Office	1.0	6.5	3.0	1.3
Private Employment Agencies	1.0	3.2	4.0	2.6
Professional Meetings	1.0	1.1	0.0	0.0
Public Advertising	0.0	0.0	0.0	0.0
Professional Journal Advertising	0.0	0.0	0.0	0.0
Public Employment Agencies	0.0	0.0	0.0	0.0
Total Responses	101	78	96	93

A surprising (to us) proportion of districts had more applicants than vacancies. In Table 38, 70% of the districts have at least two applicants for each vacancy, at the K-6 level; 88% of districts have at least two applicants to each vacancy at the 7-12 level. A good deal of this may be due to individual teachers applying to more than one district.

TABLE 38

PERCENTAGE OF DISTRICTS INDICATING GIVEN CATEGORIES OF APPLICANT/VACANCY RATIOS FOR THE SCHOOL YEAR SEPTEMBER 1964-SEPTEMBER 1965, BY GRADE LEVELS

A/V RATIO Range		K-6 %	7-12 %
0.1-1.0		5.46	0.0
1.1-2.0		21.82	10.64
2.1-4.0		27.26	17.02
4.1-8.0		23.65	31.90
8.1-16.0		12.72	19.14
Over 16.0		9.09	21.30
	N =	55	47

The information in Table 38 is based on districts which had numbers greater than zero in both numerator and denominator of the A/V ratio. Seven K-6 and seven 7-12 districts had one element of the ratio equal to zero. Four K-6 and five 7-12 districts had a total of 100 applicants but no vacancies. Three K-6 and two 7-12 districts had not one applicant for a total of 94 vacancies.

Table 39 shows large differences among the ten regions in average applicant/vacancy ratios. Ratios for elementary levels range from 16.8: 1, for region 9 (See Figure 1) to 2.8: 1 for region 6. The ratios for secondary level range from 43.5: 1 for region 9 to 2.5: 1 for region 5.

TABLE 39

RATIO OF APPLICANTS TO VACANCIES BY REGION

Region		Applicants		Vacancies	
		K-6	7-12	K-6	7-12
1	Total	40	244	11	36
	Ratio	3.6	6.8		
2	Total	1,636	1,030	236	88
	Ratio	6.9	11.7		
3	Total	155	37	54	8
	Ratio	2.9	4.6		
4	Total	5,662	6,148	792	583
	Ratio	7.1	10.5		
5	Total	84	20	27	8
	Ratio	3.1	2.5		
6	Total	705	2,085	250	150
	Ratio	2.8	13.9		
7	Total	577	660	85	81
		6.8	8.1		
8	Total	14,563	7,159	2,133	2,347
	Ratio	6.8	3.1		
9	Total	1,089	7,097	65	163
	Ratio	16.8	43.5		
10	Total	110	495	29	166
	Ratio	3.8	3.0		

Once someone has been educated for teaching, what makes him or her decide to teach in a given district? Teachers were asked this question about their first teaching position and their present teaching position. Table 40 shows that 30% indicated that, for their first teaching position their only application or offer was with the district where they first taught. Only 11% say this about their present teaching position.

Twenty percent considered the guarantee of a teaching assignment, to a school, grade, or subject matter of choice an important reason for their first position choice. Twenty percent considered the same for the ability to teach the way they think they should. Eighteen percent considered salary important in choice of first position. Sixteen percent of K-6 and eight percent of 7-12 teachers were influenced by the schools being close to a community where their husbands had jobs. Other less frequent reasons may be seen in Table 40.

One-third of the teachers indicated that they were still in their first teaching position. The quality of the superintendent, principal, or administrative staff and freedom to teach both influenced about 20% to take their first and their present positions. More teachers (24%) indicate that salary was an important influence in taking their present position, than in taking their first position (18%). This is expecially true at 7-12 level, where the comparative percentages are 28% (present) and 19% (first position). See Table 40 for other reasons, less frequently given.

Nineteen percent indicated that closeness of community to husband's position influenced them to take their present teaching position, as against 12% for their first teaching position. As would be expected, the percentage indicating this for K-6 teachers (26%)is considerably higher than that for 7-12 teachers (12%). About 54% of K-6 teachers and 28% of 7-12 teachers are married women. Thus, almost half of the married women indicated that the closeness of the prospective school district to their husband's occupation was an important factor in their teaching there.

We can account for the difference in mentions of community closeness to husband's position for first teaching position and present teaching position by the increased proportion of women teachers becoming married, as they get older.

TABLE 40

REASONS THAT INFLUENCED TO TAKE

	FIRST Teaching Position			PRESENT Teaching Position		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total
Present is first				31.18	34.96	32.99
Only application/offer with this district	30.03	29.62	29.83	11.01	10.64	10.83
Amount of responsibility	3.39	4.23	3.80	3.83	5.77	4.76
Availability of higher education facilities	7.77	10.90	9.27	10.77	13.63	12.15
Chance to teach disadvantaged children	6.99	4.53	5.81	5.92	4.87	5.42
Climate	10.18	14.96	12.47	16.46	21.58	18.92
Community cultural advantages	8.60	10.21	9.38	10.26	14.19	12.15
Community is close to where husband had a job	15.71	7.52	11.78	25.53	11.50	18.79
Stimulating place to live	9.55	9.70	9.62	11.76	13.59	12.64
Freedom to teach the way I think I should	19.81	19.53	19.68	20.80	20.21	20.52
Fringe benefits (insurance, leaves)	3.55	3.50	3.53	6.71	5.43	6.09
Guaranteed assignment	18.39	21.07	19.68	14.84	19.79	17.21
High socio-economic level of community	4.10	5.73	4.88	5.13	7.91	6.46
Near college	8.92	11.24	10.03	3.31	4.70	3.98
Personality of recruiter	9.08	8.29	8.70	7.18	6.62	6.91
Personnel practices	6.95	4.91	5.97	9.23	8.46	8.86
Quality of superintendent, principal or administrative staff	19.81	17.86	18.88	22.89	21.45	22.20
Recruiter told of advantages	5.76	3.25	4.55	4.06	3.16	3.63
Salary	17.21	18.80	17.97	20.80	27.86	24.19
Supervision	2.13	1.37	1.76	2.92	1.97	2.46
Superior students	1.58	3.50	2.50	1.74	5.38	3.49
Tenure and retirement regulations	2.80	2.61	2.71	8.05	7.01	7.55
None of the above	13.65	12.86	13.27	5.09	4.53	4.82
Totals	2534	2340	4874	2534	2340	4874

E. MOTIVATIONS TO ENTER TEACHING

1. K-6 versus 7-12

Table 41 shows what kinds of people or reasons influenced the original decision to teach. We see that the chance to teach subject matter of great interest was considerably more frequently mentioned among 7-12 teachers. The joy of seeing children learn was more frequently mentioned by K-6 teachers.

TABLE 41

KINDS OF PEOPLE OR REASONS THAT INFLUENCED ORIGINAL DECISION TO TEACH

	K - 6	7 - 12	Total
	%	%	%
Advice of college counselor or advisor	4.02	4.35	4.18
Advice of high school counselor or advisor	3.92	3.41	3.67
Chance to help others, contribute to society	20.81	18.48	19.68
Chance to meet the right kind of spouse	.22	.12	.17
Chance to teach subject matter of great interest to me	6.49	22.71	14.37
Example of inspiring teacher in college	1.88	5.39	3.58
Example of inspiring teacher in elementary or high school	12.43	12.83	12.62
Example of teacher friends (similar age)	6.75	5.33	6.06
Joy of seeing children learn	21.17	9.15	15.33
Security	15.70	11.60	13.71
Seemed the only available career at the time	6.55	6.59	6.56
Totals	5832	5508	11340

2. High School Experience

The example of an inspiring teacher in elementary or high school was mentioned by 26%. (The student interviews confirm this effect of K-12 teachers.) By contrast, only 8% mentioned an inspiring college teacher, although this was much more frequently mentioned by 7-12 teachers than K-6. Teachers did not perceive that the advice of either high school or college counselors had been very important in their original decision to teach. We cannot tell from these data whether or not different counseling or advising techniques would influence students more than the ones used in the past.

3. Other Frequent Motivations

The motivations most frequently mentioned (20% of the mentioned motivations, or better than 40% of the respondents) was the chance to help others and contribute to society. Security is also mentioned by better than 1/4 of the respondents. Less frequently mentioned motivations may be seen in Table 41.

Note that only about 13% of the respondents indicated that teaching seemed the only available career at the time. There is evidence that the range of available careers for women has broadened, in the last five years. For example, labor shortages throughout the country have encouraged business to open jobs, many of them part time, to suburban housewives.*

4. Competing Occupations

Table 42 shows how respondents considered kinds of careers that they could reasonably expect and compared them with teaching on whether or not various objectives could be more easily attained in teaching or in other feasible careers.

Four-fifths of teachers believe that they are more able to contribute to society as teachers than in other possible occupations. Only 1% of California teachers believe that they would be better able to contribute to society in another feasible career.

To be able to express their originality was important to the overwhelming majority of teachers. Forty-five percent of 7-12 teachers thought it was more attainable by teaching, but 57% of K-6 teachers thought this. One out of every eight teachers thought he or she would be more able to express originality in another feasible career. It seems likely that they are thinking of junior-college or four-year college teaching.

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* Wall Street Journal, January 17, 1967, p. 1, "Suburban housewives find more nearby employers pitching job offers their way."

TABLE 42

PERCENTS INDICATING COMPARISON OF TEACHING WITH OTHER FEASIBLE CAREERS ON

	Contribution to Society			Expression of Originality			Good Income		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total	K - 6	7 - 12	Total
Not important or applicable	0.79	1.24	1.01	2.96	3.25	3.10	3.31	2.99	3.16
More attainable in teaching	79.91	77.39	78.70	56.79	45.43	51.33	29.04	16.24	22.90
About same	14.01	16.07	15.00	22.57	31.03	26.63	23.84	21.84	22.88
More attainable in other career	0.87	1.45	1.15	10.42	14.70	12.47	36.74	53.12	44.60
Other and no response	4.42	3.85	4.14	7.26	5.60	6.46	7.06	5.81	6.46

	Helping Others			Pleasant Co-Workers			Pleasant Working Conditions		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total	K - 6	7 - 12	Total
Not important or applicable	0.00	0.00	0.00	2.53	3.42	2.95	1.66	2.05	1.85
More attainable in teaching	72.53	73.25	72.88	35.20	31.67	33.50	33.15	26.50	29.95
About same	19.49	19.49	19.49	52.72	56.07	54.33	42.78	45.21	43.95
More attainable in other career	0.87	1.11	0.98	2.45	3.08	2.75	14.84	19.70	17.17
Other and no response	7.10	6.15	6.65	7.10	5.77	6.46	7.58	6.54	7.08
Totals	2534	2340	4874	2534	2340	4874	2534	2340	4874

Only 3% of California teachers felt that good income was not important. About one quarter believed that a good income was more attainable in teaching than in other careers, with the percentage slightly higher (29%) for K-6 teachers. However, 45% thought that a good income was more attainable in other careers, with this percentage considerably higher (53%) for 7-12 teachers.

Not one of our 5,000 teachers felt that helping others is not an important objective. Three-quarters felt that it was more attainable in teaching than in any other feasible career. Only 1% thought it was more attainable in another career.

Only 3% felt that having pleasant co-workers was not an important aspect of a career. About 1/3 thought that this objective was more attainable in teaching, and only 3% thought it was more attainable in other careers.

Pleasant working conditions was also a very important objective for the overwhelming majority of teachers. About 3 out of 10 thought it was more attainable in teaching, with the percent higher (33%) for K-6 teachers. Twenty percent of the 7-12 teachers and 15% of the K-6 teachers thought this objective more attainable in another career.

Table 43 shows that, as expected, a much higher percentage (39%) of 7-12 teachers than of K-6 (17%) teachers felt that having a profession to fall back on in case of a husband's disability was not important or applicable to them. From the proportions of male teachers in the two grade categories, we can surmise that almost all giving the "unimportant" response are men. The vast majority of the women in both K-6 and 7-12 categories felt that this objective was more attainable in teaching than in another career. Only 1% of the total felt it was more attainable in another career.

The overwhelming majority of teachers consider responsibility an important career objective. Almost half the K-6 teachers and almost a third of the 7-12 teachers thought this objective more attainable in teaching than in other feasible careers. About one sixth of the 7-12 teachers and one twelfth of the K-6 teachers thought it was more attainable in other careers.

About one out of eight California teachers considers prestige not an important career objective. About one quarter of them feel that it is more attainable in teaching and one quarter that it is more attainable in other careers.

Fifty seven percent of teachers believe that security is more attainable in teaching. Only 6% believe it is more attainable in other careers.

The overwhelming majority of teachers, 85%, believe that a

TABLE 43

PERCENTS INDICATING COMPARISON OF TEACHING WITH OTHER FEASIBLE CAREERS ON

	Profession to Fall Back On in Case of Husband's Disability			Responsibility			Prestige		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total	K - 6	7 - 12	Total
Not important or applicable	16.89	38.63	27.33	5.96	5.38	5.68	15.11	10.60	12.95
More attainable in teaching	60.77	35.77	48.77	45.07	30.81	38.22	25.93	20.09	23.12
About same	9.98	7.31	8.70	34.21	40.56	37.26	30.39	30.60	30.49
More attainable in other career	1.07	1.28	1.17	7.46	16.54	11.82	20.13	31.75	25.71
Other and no response	11.29	17.01	14.03	7.30	6.71	7.02	8.45	6.97	7.73
Totals	2534	2340	4874	2534	2340	4874	2534	2340	4874

	Security			Vacation		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total
Not important or applicable	7.81	7.44	7.63	4.93	4.10	4.53
More attainable in teaching	59.59	53.46	56.65	85.79	84.74	85.29
About same	22.34	26.54	24.35	3.95	5.13	4.51
More attainable in other career	4.58	7.44	5.95	0.83	1.58	1.19
Other and no response	5.68	5.13	5.42	4.50	4.44	4.47
Totals	2534	2340	4874	2534	2340	4874

vacation is more attainable in teaching.

If we say that an objective which is considered more attainable in other feasible careers by more than 25% of teachers can be improved to make teaching a more satisfactor career, we find the following such objectives:

Good income for all teachers

Prestige for 7-12 teachers

F. "RETURNERS" TO TEACHING

1. Numbers

A number of pieces of evidence indicate strongly that a sizable reservoir exists of married women who are temporarily out of the teaching force but who can return. The National Education Association estimates a pool of about 300,000 former teachers below age 60 in the unemployed labor reserve.* About 30,000 of these would be in California. Teachers were asked whether there had been gaps in their teaching careers. Table 44 shows that 54% of the women teaching, but only 35% of the men, reported such gaps. For women the most frequent (28%) single reason for such gaps was homemaking.

When we see in Table 45 that 80% of our female teachers are, or have ever been, married, we may deduce that about a third of the married women now teaching have taken some time out of their career for fulltime homemaking.

Table 46 on the age of youngest child presents strong indications that female teachers, after having children, wait until their youngest is in school, before they go back to teaching. The proportion of women with children younger than 7 is less than one third the analogous proportion of male teachers. Further, 57% (45/79) of the ever married women teachers have no children; 27% (24/88) of the ever married men have no children. In addition, it may be that there is a tendency for women to come back into teaching after their children are in college, judged from the difference (20% versus 10%) of women versus men with the youngest children of college age. It is also possible that this latter result is a function of older men leaving teaching for other occupations.

We found that women teachers are more likely than men to be on the extremes of the experience continuum. Forty-three percent of the male respondents have been teaching for 4-10 years,compared to 33%

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* National Education Association, Teacher Supply and Demand in Public Schools, October 1966, Washington, D.C.

TABLE 44

GAPS IN TEACHING CAREER

	Male %	Female %	All %
No gaps	64.86	46.04	52.44
Full-time college/grad studies	9.34	6.38	7.37
Homemaking	.00	27.84	18.45
Armed Forces	9.00	1.32	3.90
School counseling, admin., supervision	1.85	.83	1.17
Other occupation	12.66	10.03	10.91
Leaves of absence	2.25	7.53	5.74
Total	1776	3477	5278*

* 21 responses were not identifiable by sex.

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of the female respondents. Proportionately more females (15%) than males (8%) have been teaching over 20 years. Similarly, proportionately more females (25%) than males (19%) have been teaching for three years or less.

"Returners" to teaching do not constitute a very significant portion of the teachers new to a district for the three years (1964-1966) covered in the Superintendent Survey. Reporting districts, which returned sparse data on this question, indicated only 16% at most of the experienced teachers at the elementary level held non-teaching positions the year before their employment in the district. This includes all those in the "Other" category. At the same time, only 8% of the experienced secondary teachers held non-teaching positions the year before their employment in the district. This figure does not include any in the "Other" category since none were listed in this category. Housewives represent the smallest, other than the category "Other", percentage of returners from non-teaching positions the year before their employment in the district. Possibly up to 10% of elementary and 9.5%

TABLE 45

MARITAL STATUS

	Male %	Female %	Total %
Married	84.35	64.64	71.58
Divorced/Separated	3.35	9.26	7.18
Widowed	0.29	4.82	3.23
Single	11.82	20.98	17.76
Other and no response	0.18	0.29	0.25
Totals	1700	3131	4831

TABLE 46

AGE OF YOUNGEST CHILD

	Male %	Female %	Total %
No children	24.53	45.26	37.96
Younger than 3	21.88	4.60	10.68
3-7	21.88	8.27	13.06
8-16	19.94	19.16	19.44
17 or older	10.00	20.38	16.73
Other and no response	1.76	2.33	2.13
Totals	1700	3131	4831

of secondary beginning teachers for the time frame indicated are also "returners". At the very least, 8% of both these groups is made up of "returners". These data from Table 36 are suspect, since they are based upon fewer than 10% of the newly hired teachers. (This can be ascertained by comparing totals in Tables 29 and 36.) Table 29 relates to a characteristic, credentials, to which the law forces school districts to pay attention. Because no legal requirement now exists, very few school superintendents gather data on the status in the previous year of their newly hired teachers. We shall see below that our lack of good data on returners in the past makes it very difficult to estimate how great an input they can be expected to make in the future.

About 54% were in college or graduate school, 28% student teaching, 8% homemaking, 8% in some other full time occupation, 1% temporarily in the Armed Services, and 0.2% in the Armed Services as a career, the year before they began teaching. Thus, at least eight percent of the inputs in a given year are returners. Data from a national study* indicate that 23% of 1959-60 accessions were returners (16% of male and 26% of female accessions). If we deduct those returning from leaves of absence, 18% of accessions (14% of male and 20% of female) are returners.

G. INVENTORY - ELEMENTARY AND SECONDARY

1. Total

In this study, we have chosen to draw the line between elementary and secondary at the sixth grade. In these terms we see in Table 47 that 48% of our teachers teach in K-6 grades. Where a teacher indicated that he or she taught in grades K-6 and grades 7 and 8, he or she was assigned as a K-6 teacher. There were 350 such teachers.

If we consider teacher assignments, rather than individual teachers, we see that about 26% of the men and 15% of the women are assigned to grades 7 and 8. The majority of male assignments are in grades 9-12, the majority of women's assignments in grades K-6. Looking at the data by grades, 84% of those reporting assignments in K-6

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* Lindenfeld, F., Teacher Turnover in Public Elementary and Secondary Schools, 1959-60, U.S. Department of Health, Education, and Welfare, OE-23002-60, U.S. Government Printing Office, Washington, 1963.

TABLE 47

GRADES TAUGHT

	Column Percents			Row Percents			
	Male	Female	All	Male	Female	Total %	Total Number
K-6	20.66	63.57	47.98	15.71	84.29	100	2520
7-8	25.62	15.23	19.03	49.10	50.90	100	1000
9-12	53.70	21.19	32.98	59.24	40.76	100	1737
Totals	1916	3341	5281	3645	6355	100	5257

schools were women; 51% of those reporting assignments in grades 7 and 8 were women, and 41% of those reporting assignments in grades 9-12 were women.

2. Sex and Grade Level

Thus, the sex distribution of 7-12 teachers (56% male) is very similar to that shown for 9-12 teachers in the previous table, (59% male). Only 16% of K-6 teachers are male.

3. Subject Matter and Shortages

Table 48 shows that the following subjects engage at least 5% of California teachers:

Elementary education	48%	History	7%
Mathematics	9%	Social studies	6%
Physical education	7%		

If we double the numbers above, with the exception of the elementary education number, we have a close estimate of the percent of secondary teachers teaching various subjects.

TABLE 48

SUBJECTS TAUGHT

	%
Agriculture	0.29
Art	3.20
Biology	2.61
Business Education	2.81
Chemistry	1.05
Drama	0.86
Driver Education	1.25
Elementary Education	47.91
English	11.53
Foreign Languages	3.98
Geography	3.84
History	7.18
Home Economics	2.15
Industrial Arts	3.06
Journalism	0.82
Mathematics	9.25
Mentally Retarded	1.60
Music	2.36
Physical Education	7.04
Physics	0.94
Reading	4.58
Science (General)	4.55
Social Studies	5.62
Speech	1.15
Trade-Technical	0.39
Other and No Response	3.55
Totals	4874

One way to estimate teacher shortages is to ask superintendents how many of their teachers are in positions for which they were not formally trained. We did this. The results, though substantively disappointing, are administratively important. Essentially, we found that very little information was available at the superintendent's office to answer this question, even in our sample, which overrepresented large districts. Out of seven districts which cover only grades K-6, 71% had no information. Out of 75 districts which include grades 7-12, 38, 51%, had no information. In the cases where information was given, it seemed a clear underestimate of the number of teachers teaching out of their field, judging by the responses of the teachers themselves.

There was a definite tendency for information to be more complete for the larger districts.

We believe that there is a definite need for a reporting system which would apprise each district superintendent, and through him the State Department of Education, of the frequency of assignments of teachers for reasons of necessity, rather than for reasons of the training of the teacher. As we shall indicate below, there seems to be considerable confusion about the areas where shortages exist.

Another way to measure whether shortages or overages exist in the supply of teachers teaching certain subjects is to find how formally well educated teachers feel they are for teaching their subject. It was thought that if shortages exist in certain subjects, we would find that teachers teaching them feel that they are insufficiently trained, i.e., are teaching the subject in spite of inadequate training because properly trained teachers are not available. It was recognized, of course, that a teacher may teach various subjects, spending only part of his time teaching in a shortage area for which he was not formally trained, and the rest teaching in areas in which he was trained. Teachers were asked what percentage of the time they spend teaching subjects in which they considered themselves formally trained. Table 49 shows the results of this analysis for shortage and overage subjects defined on the basis of Hurd, op. cit, Table 6.

If we look at the columns of Table 49 which show that less than 50% of time is spent teaching subjects for which trained, we see only one subject, physics, for which the percentage in these two columns is noticeably different from the average. However, the other so-called shortage subjects of English, foreign languages, industrial arts, mathematics, physical education for women and general sciences, show percentages in these two columns like those of the overage subjects.

At the other end of the scale, we find teachers who perceive that they have been adequately trained for 100% of their subjects taught. This percentage is unusually high for foreign languages, industrial arts, and physical education for women, all of which are so-called shortage subjects.

TABLE 49

SELECTED SUBJECTS TAUGHT AND PERCENT OF TEACHERS WHO INDICATED PERCENT OF TIME SPENT TEACHING SUBJECTS IN WHICH ADEQUATELY FORMALLY TRAINED

	Perceived Percent of Time Spent Teaching Subjects in Which Adequately Formally Trained								
Selected Subjects Taught	Self-Contained Classroom	100%	75-99%	50-74%	25-49%	Less than 25%	No Answer	Underage or Overage	Total
Art	1	48	17	8	1	5	20	over	136
English	1	49	19	7	3	5	16	under	528
Foreign Languages	1	61	18	4	3	3	10	under	177
Industrial Arts	0	64	17	4	4	3	8	under	149
Mathematics	1	59	16	5	2	6	11	under	431
Physical Education-M	1	47	20	7	4	8	13	over	167
Physical Education-W	0	65	12	4	0	4	15	under	155
Physics	0	51	26	4	2	18	0	under	51
General Science	1	42	25	10	5	4	13	under	197

We are forced to the conclusion either that teachers are not able to say whether they are adequately formally prepared, or that teachers in shortage areas are assigned as teachers in other areas, or that the areas in which shortages are believed to exist, do not really contain them.

Another way of looking at the problem of the shortage possibilities of teachers in various fields is to compare the subjects taught with the undergraduate majors and minors of the teachers. This was done for the same selected subjects in Table 50.

We judged which college subjects were relevant to which subjects taught. Again we found no consistent relationship between shortages and percent of teachers who had majored or minored in the subjects taught. Except for mathematics and physics, we found for so-called shortage areas that at least 77% majored or minored in relevant subjects; finally, in the so-called overage area of art, we find only 59% majored or minored in relevant areas.

In conclusion, there is a definite information gap about which secondary school subject matter areas have teacher shortages. The only clear datum points seem to exist in mathematics and physics, evidently being taught by many who do not have depth of preparation.

One way to assess teachers' satisfaction with their work and also to get some indication of attrition we can expect in the future is to ask about long range plans. Table 51 does this.

Teachers of agriculture, driver education and trade-technical subjects, all small groups, intend to teach the same grades in the same district, more than the average teacher. Teachers of drama, geography, the mentally retarded, physics, general science and speech are less likely than the typical teacher to intend to stay in the same district.

Teachers in biology, chemistry, physics and general science are unusually likely to move up in K-12 teaching level or teaching at a four-year college. Teachers of the various subjects are fairly homogeneous, with respect to their intention to go into an occupation other than teaching.

Some indication of teachers' difficulties in lesson preparation can be seen by asking them how many different subjects (e.g., 7th grade history, 8th grade history) they teach, as shown in Table 52.

If we consider four or more subjects as an unusually heavy teaching load, and 30% of teachers of a subject as an unusually large proportion teaching four or more subjects, we find that agriculture,* drama, and trade technical* are taught by teachers with an unusually diverse load.

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* Unreliable because of small numbers.

TABLE 50

SELECTED SUBJECTS TAUGHT, COLLEGE MAJORS AND MINORS, 7-12 TEACHERS

	Relevant College Major (Top Percent) and Minor (Bottom Percent)																	
Selected Subjects Taught	Art	Bio.	Chem.	Engin.	Eng.	For. Lang.	Ind. Arts	Journalism	Lang. Arts	Math.	Phys. Ed.	Phys. Sci.	Physics	Speech	Sum Relevant Major/ Minor	Sum Relevant Major and Minor	Shortage or Overage	Total
Art	52														52	59	over	136
	7														7			136
English				39				1	1					5	46	80	under	528
				27				1	1					5	34			528
Foreign Language						49									49	88	under	177
						39									39			177
Mathematics				3						24					27	46.2	under	431
				0.2						19					19.2			431
Industrial Arts							75								75	80	under	157
							5								5			157
Physical Ed.-M											60				60	77	over	167
											17				17			167
Physical Ed.-W											68				68	85	under	155
											17				17			155
Physics												20	22		42	64	under	49
												12	10		22			49
Gen. Science		32	5	0.5								6	4		47.5	86	under	197
		14	9	0.5								12	3		38.5			197

TABLE 51

SUBJECT MATTER TAUGHT AND PERCENT INDICATING LONG RANGE PLANS

	Long Range Plans*									
	1	2	3	4	5	6	7	8	9	Total
Agriculture	41.66	00.00	00.00	33.33	8.33	00.00	00.00	8.33	8.33	12
Art	18.46	2.30	3.07	16.15	7.69	11.53	14.61	5.38	20.76	130
Biology	20.33	1.69	2.54	21.18	12.71	12.71	5.08	8.47	15.25	118
Business Education	26.19	3.17	3.17	19.04	7.93	8.73	7.14	3.96	20.63	126
Chemistry	23.91	2.17	00.00	13.04	6.52	21.73	00.00	8.69	23.91	46
Drama	8.10	00.00	5.40	24.32	10.81	16.21	10.81	5.40	18.91	37
Driver Education	39.62	1.88	1.88	7.54	16.98	9.43	00.00	7.54	15.09	53
Elementary Education	23.74	8.09	5.32	3.92	10.41	2.18	16.42	3.77	26.11	2064
English	22.73	2.10	2.94	13.47	9.47	8.21	10.31	5.26	25.47	475
Foreign Languages	25.71	1.71	2.28	16.57	9.14	6.85	9.14	5.71	22.85	175
Geography	13.46	1.28	2.56	21.15	14.74	5.76	10.89	8.97	21.15	156
History	16.55	1.98	3.31	18.87	13.24	7.28	8.60	7.61	22.51	302
Home Economics	21.97	4.39	8.79	3.29	5.49	2.19	25.27	5.49	23.07	91
Industrial Arts	25.38	4.61	3.07	20.00	19.23	6.92	00.00	7.69	13.07	130
Journalism	16.66	5.55	5.55	8.33	13.88	8.33	5.55	8.33	27.77	36
Mathematics	21.93	3.06	2.80	17.60	12.24	7.65	4.59	7.90	22.19	392
Mentally Retarded	12.12	6.06	1.51	3.03	21.21	6.06	10.60	4.54	34.84	66
Music	21.05	8.42	3.15	11.57	9.47	12.63	9.47	3.15	21.05	95
Physical Education	16.77	2.01	3.35	13.75	15.77	8.05	9.73	4.02	26.51	298
Physics	11.62	00.00	00.00	16.27	13.95	23.25	2.32	6.97	25.58	43
Reading	17.27	4.71	3.66	10.99	10.99	6.80	13.08	6.28	26.17	191
Science (General)	14.79	2.55	2.55	22.44	13.77	11.22	3.57	7.14	21.93	196
Social Studies	15.38	2.13	2.99	17.52	14.95	7.69	7.69	5.12	26.49	234
Speech	10.86	4.34	2.17	17.39	21.73	8.69	4.34	6.52	23.91	46
Trade-Technical	29.41	00.00	00.00	17.64	23.52	00.00	00.00	5.88	23.52	17
Other and No Response	17.90	3.70	3.08	10.49	19.75	6.79	6.79	6.79	24.69	162

* See Legend, next page.

LEGEND
TABLE 51

LONG RANGE PLANS

1. Teach same grades in same school
2. Teach same grades in different school, same district
3. Teach same grades in another district
4. Move up (elementary to secondary; secondary to junior college) in teaching level
5. Become a school administrator/supervisor/counselor
6. Teach at four year college
7. Become a full-time homemaker
8. Go into an occupation other than teaching
9. Undecided

TABLE 52

SUBJECT MATTER AND PERCENT INDICATING DIFFERENT SUBJECTS TAUGHT

Subjects Taught	Not Applicable	Different Subjects Taught 1	2	3	4	5	6	7 Or More	Total
Agriculture	00.00	7.69	23.07	15.38	38.46	15.38	00.00	00.00	13
Art	11.59	10.86	18.11	21.73	14.49	8.69	4.34	10.14	138
Biology	4.23	21.18	37.28	22.88	7.62	2.54	3.38	.84	118
Business Education	2.29	2.29	21.37	43.51	16.79	9.16	2.29	2.29	131
Chemistry	2.04	20.40	32.65	22.44	14.28	4.08	4.08	00.00	49
Drama	7.31	00.00	17.07	29.26	24.39	14.63	2.43	4.87	41
Driver Education	18.18	14.54	34.54	16.36	9.09	1.81	3.63	1.81	55
Elementary Education	99.08	.05	.16	.10	00.00	.10	.16	.32	1851
English	7.48	11.13	28.98	25.52	12.47	7.67	1.72	4.99	521
Foreign Languages	10.79	13.63	21.02	19.88	15.90	10.79	2.84	5.11	176
Geography	6.14	11.73	26.81	20.67	11.17	10.05	4.46	8.93	179
History	6.44	14.41	29.44	24.23	8.28	7.97	3.68	5.52	326
Home Economics	12.12	13.13	25.25	29.29	8.08	5.05	1.01	6.06	99
Industrial Arts	13.97	8.82	27.20	23.52	14.70	5.88	3.67	2.20	136
Journalism	10.52	2.63	60.52	7.89	7.89	7.89	00.00	2.63	38
Mathematics	5.71	11.42	19.04	32.14	17.85	5.71	4.28	3.80	420
Mentally Retarded	61.40	1.75	8.77	5.26	8.77	7.01	00.00	7.01	57
Music	20.19	6.73	16.34	14.42	7.69	16.34	6.73	11.53	104
Physical Education	18.06	17.05	19.39	16.38	10.36	7.02	3.67	8.02	299
Physics	00.00	7.14	26.19	33.33	16.66	9.52	4.76	2.38	42
Reading	9.74	12.82	16.41	19.48	13.84	12.30	3.58	11.79	195
Science (General)	5.88	10.78	29.41	21.56	12.74	8.33	5.39	5.88	204
Social Studies	5.95	16.26	23.01	21.82	11.90	9.92	3.17	7.93	252
Speech	9.80	1.96	25.49	31.37	9.80	13.72	00.00	7.84	51
Trade-Technical	20.00	00.00	00.00	26.66	20.00	6.66	26.66	00.00	15
Other and No Response	20.52	10.59	23.17	19.20	12.58	7.94	.66	5.29	151

Biology and chemistry are taught by people, more than 70% of whom teach three or fewer different subjects.

Another index, shown in Table 53, is the number of hours spent weekly in planning lessons.

Seventy-nine percent of all teachers spend ten or fewer hours planning lessons. Teachers in biology, business education, driver education, foreign languages, journalism, and trade technical* have unusually light loads (more than 88% spending ten or fewer hours weekly planning lessons).

Table 54 shows the salary distribution for subject matter taught.

Teachers in biology, chemistry, driver education, foreign languages, geography, history, industrial arts, mathematics, mentally retarded, physics (30% of salaries $11,000 or more) and trade technical* have salary ranges clustered toward the top.

Elementary education teachers have salary distributions clustered toward the bottom.

Table 55 shows the salary distribution of male teachers, by subject matter taught. Biology, chemistry, driver education, physics (32% $11,000 or over), and trade technical* teachers have relatively high salary distributions.

Male teachers teaching art, elementary education (26% less than $6,950) reading and general science have relatively low salaries.

Women teaching chemistry*, drama, journalism, speech and trade technical* have relatively high salary distributions as shown in Table 56.

4. Type of Certification

We see in Table 57 that certificates held by at least 5% of the sample include:

General Elementary	56%	Special Secondary	10%
General Secondary	33%	Kindergarten-Primary	5%
Junior High School	11%		

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* Unreliable because of small numbers.

TABLE 53

SUBJECT MATTER TAUGHT AND PERCENT INDICATING HOURS WEEKLY PLANNING LESSONS

Subjects Taught	Hours Weekly Planning Lessons					
	0-5	6-10	11-20	More than 20	To Early to tell	Total
Agriculture	28.57	50.00	14.28	00.00	7.14	14
Art	40.26	40.93	8.72	6.71	3.35	149
Biology	44.71	44.71	4.87	3.25	2.43	123
Business Education	58.33	31.81	7.57	00.00	2.27	132
Chemistry	36.73	38.77	16.32	6.12	2.04	49
Drama	51.21	21.95	17.07	7.31	2.43	41
Driver Education	42.37	49.15	3.38	1.69	3.38	59
Elementary Education	40.59	41.35	10.98	5.42	1.64	2249
English	47.88	35.54	11.04	4.23	1.28	543
Foreign Languages	51.59	36.70	5.31	3.72	2.65	188
Geography	37.50	48.86	7.38	4.54	1.70	176
History	43.15	43.45	8.03	3.86	1.48	336
Home Economics	36.53	50.96	4.80	3.84	3.84	104
Industrial Arts	50.68	35.61	6.16	5.47	2.05	146
Journalism	47.50	45.00	00.00	5.00	2.50	40
Mathematics	50.91	37.21	8.67	2.28	.91	438
Mentally Retarded	46.47	32.39	12.67	7.04	1.40	71
Music	44.76	38.09	11.42	4.76	.95	105
Physical Education	45.65	36.64	9.31	6.52	1.86	322
Physics	31.11	40.00	24.44	2.22	2.22	45
Reading	48.59	37.38	8.87	3.27	1.86	214
Science (General)	37.38	46.26	11.21	3.27	1.86	214
Social Studies	52.47	34.60	8.36	3.80	.76	263
Speech	43.39	37.73	11.32	5.66	1.88	53
Trade-Technical	47.36	42.10	5.26	5.26	0.00	19
Other and No Response	47.77	37.57	11.46	1.91	1.27	157

TABLE 54

SUBJECT MATTER TAUGHT AND SALARY DISTRIBUTION, IN PERCENTS, ALL TEACHERS

Subjects Taught	Salary								
	Less Than $6050	$6050 - 6949	$6950 - 7999	$8000 - 9049	$9050 - 9949	$9950 - 10,999	$11,000 - 12,499	$12,500 or More	Total
Agriculture	00.00	15.38	7.69	7.69	38.46	15.38	7.69	7.69	13
Art	9.15	11.76	24.83	21.56	11.76	10.45	10.45	00.00	153
Biology	4.95	14.87	8.26	16.52	14.04	19.83	18.18	3.30	121
Business Education	2.96	12.59	19.25	19.25	11.85	20.74	11.85	1.48	135
Chemistry	00.00	6.12	12.24	12.24	16.32	28.57	22.44	2.04	49
Drama	00.00	14.28	23.80	9.52	14.28	23.80	11.90	2.38	42
Driver Education	3.27	9.83	13.11	18.03	11.47	21.31	22.95	00.00	61
Elementary Education	9.86	22.55	21.24	18.58	9.77	10.42	7.46	.08	2292
English	5.26	18.14	21.41	18.33	9.98	13.79	12.34	.72	551
Foreign Languages	4.18	18.84	18.84	13.61	9.94	19.37	14.13	1.04	191
Geography	4.34	14.13	24.45	16.30	10.86	13.58	15.76	.54	184
History	3.17	15.27	20.46	20.17	9.22	16.13	13.83	1.72	347
Home Economics	5.71	18.09	24.76	20.95	5.71	19.04	5.71	00.00	105
Industrial Arts	4.08	10.88	10.20	17.00	12.24	25.85	18.36	1.36	147
Journalism	00.00	12.50	25.00	17.50	10.00	20.00	15.00	00.00	40
Mathematics	5.40	10.81	15.31	19.59	10.81	18.24	19.59	.22	444
Mentally Retarded	1.28	8.97	29.48	15.38	11.53	15.38	17.94	00.00	78
Music	1.78	13.39	18.75	13.39	18.75	22.32	9.82	1.78	112
Physical Education	6.84	17.26	20.53	20.23	11.30	11.90	9.82	2.08	336
Physics	00.00	8.69	8.69	17.39	13.04	21.73	28.26	2.17	46
Reading	7.37	16.58	26.26	21.65	10.13	8.75	9.21	00.00	217
Science (General)	9.13	17.80	15.06	22.83	9.13	12.78	12.32	.91	219
Social Studies	3.70	17.77	21.11	20.74	10.00	14.07	11.85	.74	270
Speech	3.77	9.43	18.86	28.30	3.77	24.52	11.32	00.00	53
Trade-Technical	5.26	5.26	00.00	15.78	10.52	42.10	21.05	00.00	19
Other and No Response	3.55	13.60	14.20	21.89	13.01	21.30	12.42	00.00	169

TABLE 55

SUBJECT MATTER TAUGHT AND SALARY DISTRIBUTION, IN PERCENTS, MALE TEACHERS

Subjects Taught	Salary								
	Less Than $6050	$6050 - 6949	$6950 - 7999	$8000 - 9049	$9050 - 9949	$9950 - 10,999	$11,000 - 12,499	$12,500 or More	Total
Agriculture	00.00	16.66	8.33	8.33	41.66	8.33	8.33	8.33	12
Art	11.11	9.72	12.50	22.22	13.88	12.50	18.05	00.00	72
Biology	2.22	11.11	4.44	20.00	15.55	20.00	22.22	4.44	90
Business Education	1.36	4.10	15.06	23.28	16.43	24.65	13.69	1.36	73
Chemistry	00.00	4.44	11.11	13.33	17.77	26.66	24.44	2.22	45
Drama	00.00	5.88	17.64	17.64	17.64	17.64	17.64	5.88	17
Driver Education	3.70	9.25	9.25	16.66	12.96	22.22	25.92	00.00	54
Elementary Education	9.06	17.28	22.94	20.39	8.21	12.18	9.34	.56	353
English	4.87	12.19	18.04	21.46	10.24	15.12	16.09	1.95	205
Foreign Languages	6.02	9.63	16.86	15.66	7.22	25.30	18.07	1.20	83
Geography	3.63	11.81	20.00	20.00	10.00	13.63	20.00	.90	110
History	3.27	11.68	18.22	21.49	10.28	17.28	14.95	2.80	214
Home Economics	00.00	00.00	50.00	00.00	00.00	50.00	00.00	00.00	2
Industrial Arts	3.42	10.95	10.27	17.12	12.32	26.02	18.49	1.36	146
Journalism	00.00	11.76	17.64	23.52	11.76	17.64	17.64	00.00	17
Mathematics	5.48	8.38	13.22	18.70	11.93	20.00	21.93	.32	310
Mentally Retarded	3.70	7.40	11.11	11.11	22.22	25.92	18.51	00.00	27
Music	1.72	8.62	20.68	10.34	18.96	22.41	13.79	3.44	58
Physical Education	6.62	12.65	13.85	22.89	11.44	14.45	13.85	4.21	166
Physics	00.00	6.81	6.81	18.18	13.63	22.72	29.54	2.27	44
Reading	8.10	13.51	25.67	21.62	9.45	6.75	14.86	00.00	74
Science (General)	7.59	14.55	12.65	24.68	8.86	15.18	15.18	1.26	158
Social Studies	3.97	14.56	16.55	22.51	11.25	15.89	13.90	1.32	151
Speech	4.34	8.69	13.04	34.78	8.69	17.39	13.04	00.00	23
Trade-Technical	6.25	6.25	00.00	18.75	6.25	37.50	25.00	00.00	16
Other and No Response	3.19	8.51	11.70	21.27	17.02	22.34	15.95	00.00	94

TABLE 56

SUBJECT MATTFR TAUGHT AND SALARY DISTRIBUTION, IN PERCENTS, FEMALE TEACHERS

Subjects Taught	Salary								
	Less Than $6050	$6050 - 6949	$6950 - 7999	$8000 - 9049	$9050 - 9949	$9950 - 10,999	$11,000 - 12,499	$12,500 or More	Total
Agriculture	00.00	00.00	00.00	00.00	00.00	00.00	00.00	00.00	0
Art	7.50	12.50	36.25	21.25	10.00	8.75	3.75	00.00	80
Biology	13.33	23.33	20.00	6.66	10.00	20.00	6.66	00.00	30
Business Education	4.91	22.95	22.95	14.75	6.55	16.39	9.83	1.63	61
Chemistry	00.00	33.33	33.33	00.00	00.00	33.33	00.00	00.00	3
Drama	00.00	20.00	28.00	4.00	12.00	28.00	8.00	00.00	25
Driver Education	00.00	14.28	42.85	28.57	00.00	14.28	00.00	00.00	7
Elementary Education	10.07	23.58	20.88	18.28	9.92	10.18	7.06	00.00	1925
English	5.52	21.80	23.25	16.27	9.88	13.08	10.17	00.00	344
Foreign Languages	2.80	26.16	20.56	12.14	12.14	14.01	11.21	.93	107
Geography	5.47	17.80	31.50	10.95	10.95	13.69	9.58	00.00	73
History	3.05	21.37	24.42	17.55	6.87	14.50	12.21	00.00	131
Home Economics	5.82	18.44	24.27	21.35	5.82	18.44	5.82	00.00	103
Industrial Arts	100.00	00.00	00.00	00.00	00.00	00.00	00.00	00.00	1
Journalism	00.00	13.04	30.43	13.04	8.69	21.73	13.04	00.00	23
Mathematics	5.34	16.79	20.61	21.37	8.39	13.74	13.74	00.00	131
Mentally Retarded	00.00	9.80	39.21	17.64	5.88	9.80	17.64	00.00	51
Music	1.85	18.51	16.66	16.66	18.51	22.22	5.55	00.00	54
Physical Education	7.10	21.89	26.62	17.75	11.24	9.46	5.91	00.00	169
Physics	00.00	50.00	50.00	00.00	00.00	00.00	00.00	00.00	2
Reading	7.04	18.30	26.05	21.83	10.56	9.85	6.33	00.00	142
Science (General)	13.79	25.86	20.68	18.96	10.34	5.17	5.17	00.00	58
Social Studies	3.38	22.03	26.27	18.64	8.47	11.86	9.32	00.00	118
Speech	3.33	10.00	23.33	23.33	00.00	30.00	10.00	00.00	30
Trade-Technical	00.00	00.00	00.00	00.00	33.33	66.66	00.00	00.00	3
Other and No Response	4.00	20.00	17.33	22.66	8.00	20.00	8.00	00.00	75

TABLE 57

CREDENTIALS

	Held %	Teaching Under This Year %
Kindergarten-Primary	5.19	4.10
General Elementary	55.87	47.72
Junior High School	10.85	4.80
General Secondary	33.18	28.11
Special Secondary 1)	10.48	6.73
Gen Pupil Per Serv 2)	2.73	0.92
Adult Ed, Desig Subj	1.15	0.41
Exceptional Children 3)	2.59	1.91
Adult Ed Short Unit	0.14	0.12
Vocational	0.49	0.33
Military Science	0.08	0.02
Elementary Admin	3.78	0.90
Secondary Admin	2.54	0.47
Gen Administration	1.83	0.23
Supervision 4)	0.88	0.16
Sec Sch Admin Trade & Ind Ed	0.04	0.08
Spec Sec Voca (part-time)	0.06	0.02
Standard, Specialize Elem	1.33	1.40
Standard, Specialize Secon	3.04	2.85
Standard, Specialize JC	0.55	0.12
Standard, Special Ed	0.64	0.49
Stand, Designated Subj 5)	0.33	0.29
Stand Designated Services, Pupil	0.21	0.14
Standard Supervision	0.18	0.00
Standard Administration	0.10	0.04
Totals	4874	4874

1) e.g., Aviation, Art
2) include older Psychological Services credentials
3) include older Special Education credentials
4) include special subject supervision
5) e.g., Aviation Flight Instruction, Basic Military Drill

Table 57 presents a similar picture for credentials under which teachers are teaching this year: General Elementary, 48%, General Secondary, 28%, and Special Secondary, 7%.

Thus, 8% of California teachers hold general elementary credentials but are not teaching under them. This would seem to indicate that these people have moved from elementary teaching to secondary teaching. It indicates a potential reservoir for additional elementary teachers. In almost all cases, more teachers hold a certificate than are teaching under it. A total of 6739 credentials are held by the teachers in our sample, an average of 1.38 per teacher.

Only a tiny minority of our teachers have either provisional certificates or those on partial fulfillment. We see in Table 58 that the most frequent provisional certificate, that in general elementary education, is held by 1% of teachers. The most frequent certificate on partial fulfillment, in general secondary, is held by 3% of the teachers.

5. Education

We have already shown that most California teachers attended high school and even more attended college in California, and that the majority of the California college graduates, especially among K-6 teachers, graduated from California state colleges.

Table 59 shows that almost half of the K-6 teachers majored in elementary education; 13% majored in a general education course, 6% majored in English and almost 5% in History. Teachers in grades 7-12 have a distribution of college majors in accordance with their distribution among subjects taught; 11% in English, 10% in physical education, 6% in business education/administration and biology/biological sciences and industrial arts. Frequently mentioned college majors are also frequently mentioned as college minors. In addition, 9% of the K-6 teachers and 11% of the 7-12 teachers minored in general social science courses.

As further evidence that a reservoir of qualified K-6 teachers exists in grades 7-12, we see that 5% of the 7-12 teachers have either majored or minored in elementary education.

More than half of K-6 teachers and 84% of the 7-12 teachers have completed one or more years of college or graduate school work after their bachelor's degree. We see in Table 60 that one quarter of the K-6 teachers who have one or more years of graduate or college work after the bachelors have a master's degree. About one half of the 7-12 teachers with one or more years of post-bachelor degree work have a master's degree.

TABLE 58

CREDENTIALS

	Provisional %	On Partial Fulfillment %
Kindergarten-Primary	0.14	0.08
General Elementary	1.37	1.72
Junior High School	0.18	0.31
General Secondary	0.86	2.61
Special Secondary 1)	0.18	0.41
Gen Pupil Per Serv 2)	0.23	1.68
Adult Ed, Desig Subj	0.04	0.10
Exceptional Children 3)	0.35	0.64
Adult Ed Short Unit	0.06	0.06
Vocational	0.00	0.18
Military Science	0.04	0.00
Elementary Admin	0.43	0.72
Secondary Admin	0.02	0.66
Gen Administration	0.04	0.49
Supervision 4)	0.02	0.18
Sec Sch Admin Trade & Ind Ed	0.00	0.02
Spec Sec Voca (part time)	0.00	0.02
Standard, Specialize Elem	0.29	0.72
Standard, Specialize Secon	0.23	1.19
Standard, Specialize JC	0.00	0.08
Standard, Special Ed	0.18	0.12
Stand, Designated Subj 5)	0.08	0.23
Stand Desig Services, Pupil	0.06	0.39
Standard Supervision	0.00	0.18
Standard Administration	0.00	0.06
Totals	4874	4874

1) e.g., Aviation, Art
2) include older Psychological Services credentials
3) include older Special Education credentials
4) include special subject supervision
5) e.g., Aviation Flight Instruction, Basic Military Drill

TABLE 59

SUBJECT CLOSEST TO COLLEGE MAJOR AND MINOR

	College Major			College Minor		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total
	%	%	%	%	%	%
Accounting	0.28	0.64	0.45	0.28	0.30	0.29
Agriculture	0.12	1.32	0.70	0.04	0.17	0.10
American Studies	0.12	0.04	0.08	0.04	0.04	0.04
Anthropology	0.08	0.09	0.08	0.24	0.30	0.27
Art	1.85	3.55	2.67	4.18	2.39	3.32
Biology/Bio Sci	1.10	5.90	3.41	2.60	6.54	4.49
Business Ed/Admin	1.22	5.85	3.45	0.71	1.71	1.19
Chemistry	0.08	1.15	0.59	0.47	2.39	1.40
Counseling	0.	0.	0.	0.16	0.21	0.18
Diversified Major	1.07	0.34	0.72	0.95	0.09	0.53
Education Admin	0.12	0.30	0.21	0.04	0.13	0.08
Education (Gen)	13.42	2.56	8.21	5.01	2.99	4.04
Elementary Ed	48.38	4.02	27.08	7.06	0.73	4.02
Engineering	0.	0.73	0.35	0.16	0.13	0.14
English	5.84	11.28	8.45	13.85	15.43	14.61
Foreign Language	1.30	4.57	2.87	3.55	6.54	4.99
Geography	0.16	0.26	0.21	1.70	0.98	1.35
History	4.46	8.16	6.24	7.66	10.51	9.03
Home Ec	1.42	4.57	2.93	1.62	0.64	1.15
Industrial Arts	0.39	5.56	2.87	0.16	1.07	0.59
Journalism	0.24	0.43	0.33	0.12	0.38	0.25
Language Arts	0.	0.34	0.16	1.03	0.56	0.80
Library Sci	0.04	0.04	0.04	0.20	0.09	0.14
Mathematics	0.47	4.79	2.54	1.18	5.38	3.20
Music	2.57	3.38	2.95	4.74	1.24	3.06
Philosophy	0.20	0.60	0.39	0.67	0.77	0.72
Physical Ed	0.99	10.34	5.48	1.93	3.03	2.46
Physical Sci	0.28	1.28	0.76	1.03	4.19	2.54
Physics	0.	0.77	0.37	0.16	1.24	0.68
Pol Sci/Int Relat	0.75	1.71	1.21	1.03	1.58	1.29
Psychology	2.13	1.24	1.70	7.62	1.88	4.86
Secondary Ed	0.24	0.34	0.29	0.12	0.94	0.51
Soc Sci (Gen)	2.60	4.66	3.59	8.72	10.68	9.66
Sociology	2.29	1.24	1.78	2.92	1.32	2.15
Speech-Drama	1.03	1.67	1.33	1.82	2.22	2.01
Other	1.54	1.62	1.58	4.54	2.74	3.67
No Answer	3.24	4.66	3.92	11.72	8.46	10.16
Totals	2534	2340	4874	2534	2340	4874

TABLE 60

PERCENT INDICATING HIGHEST DEGREE ATTAINED

	K - 6	7 - 12	Total
Less than a Bachelor's	0.99	0.30	0.66
Bachelor's degree	83.39	60.51	72.40
Master's degree	14.36	36.28	24.89
Doctor's degree	0.16	0.26	0.21
Other	0.28	0.47	0.37
No Answer	.83	2.18	1.48
Totals	2534	2340	4874

The subjects in which teachers receive post-bachelor's degree credits and master's degrees differ somewhat from their distribution of majors and minors. Twenty-one percent and 10%, respectively, of K-6 and 7-12 teachers have credits in art, 11% and 22% in counseling, 10% and 19% in education administration, 11% and 10% in foreign languages, 8% and 10% in geography, 12% and 23% in history, 15% and 7% in language arts, 21% and 16% in mathematics, 12% and 5% in music, 19% and 23% in psychology, 4% and 34% in secondary education, 7% and 11% in sociology, and 7% in speech and drama. Similar to the pattern of college majors and minors are frequencies in the following, for K-6 and 7-12 teachers, respectively, 4% and 10% in biology and biological sciences, 1% and 6% in business education/administration, 28% and 48% in general education, 38% and 11% in elementary education, 9% and 21% in English, 15% and 7% in language arts, 12% and 5% in music, 6% and 11% in physical education. Master's degrees are more common among 7-12 than among K-6 teachers, with the exception of a master's degree in elementary education, as can be seen in Table 61.

TABLE 61

PERCENTS INDICATING SUBJECTS IN WHICH

	Have Some Post-B.A./B.S. Credits			Have a Master's		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total
Accounting	0.71	2.01	1.33	0.08	0.13	0.10
Agriculture	0.24	1.20	0.70	0.00	0.13	0.06
American Studies	1.78	2.69	2.22	0.00	0.13	0.06
Anthropology	3.35	4.49	3.90	0.00	0.00	0.00
Art	20.80	10.34	15.78	0.32	1.03	0.66
Biology/Bio Sci	3.91	10.43	7.04	0.16	1.28	0.70
Business Ed/Admin	1.34	5.85	3.51	0.08	1.79	0.90
Chemistry	0.87	4.87	2.79	0.00	0.21	0.10
Counseling	10.58	21.62	15.88	0.67	1.32	0.98
Diversified Major	0.47	0.68	0.57	0.00	0.13	0.06
Education Admin	10.38	19.06	14.55	3.39	6.41	4.84
Education (Gen)	28.26	48.29	37.87	2.25	6.37	4.23
Elementary Ed	38.28	10.90	25.13	5.29	0.56	3.02
Engineering	0.28	1.37	0.80	0.04	0.04	0.04
English	9.04	20.77	14.67	0.36	2.26	1.27
Foreign Language	11.25	9.57	10.44	0.12	1.79	0.92
Geography	8.33	9.57	8.92	0.00	0.17	0.08
History	12.47	22.95	17.50	0.51	2.39	1.42
Home Ec	0.87	2.95	1.87	0.04	0.43	0.23
Industrial Arts	1.54	4.91	3.16	0.12	1.45	0.76
Journalism	0.51	1.32	0.90	0.00	0.09	0.04
Language Arts	15.39	7.05	11.39	0.20	0.13	0.16
Library Sci	2.21	1.67	1.95	0.08	0.21	0.14
Mathematics	21.19	16.32	18.86	0.12	1.28	0.68
Music	12.51	5.34	9.07	0.39	1.62	0.98
Philosophy	4.85	8.16	6.44	0.12	0.17	0.14
Physical Ed	6.08	10.64	8.27	0.12	2.52	1.27
Physical Sci	4.22	4.79	4.49	0.00	0.26	0.12
Physics	0.55	4.70	2.54	0.00	0.26	0.12
Pol Sci/Int Relat	4.14	8.97	6.46	0.08	0.51	0.29
Psychology	19.49	22.65	21.01	0.63	0.47	0.55
Secondary Ed	3.63	33.80	18.12	0.16	2.74	1.40
Soc Sci (Gen)	6.39	8.93	7.61	0.12	0.64	0.37
Sociology	7.18	10.56	8.80	0.16	0.13	0.14
Speech-Drama	7.02	7.44	7.22	0.24	0.64	0.43
Other and no response	8.80	9.87	9.31	2.01	2.31	2.15
Totals	2534	2340	4874	2534	2340	4874

6. Age and Experience

Table 62 indicates about 9% of K-6 teachers and 6% of 7-12 teachers will reach mandatory retirement age before 1975. Women teachers tend to be older than male teachers, especially at the K-6 level. This seems to be the result of a number of factors. First, women of childbearing age tend to absent themselves temporarily from teaching. We can see this from the male-female discrepancies in the proportions of teachers born in the 1930's. Second, the proportion of women among entrants to teaching was formerly higher than it is now. Third, there may be a tendency for men to go into education administration or leave teaching as they become older.

Age distributions are not available in previous studies. This makes it difficult to show attrition rates for different age groups over the years.

TABLE 62

BIRTH DATE PERCENTAGE DISTRIBUTION

	K - 6			7 - 12			Total
	Male	Female	Total	Male	Female	Total	
1900's	3.28	10.59	9.44	5.06	7.25	6.01	7.80
1910's	7.58	21.19	19.05	15.72	20.36	17.74	18.34
1920's	32.58	20.95	22.78	30.67	22.74	27.22	24.85
1930's	41.16	22.98	25.83	37.96	24.33	32.02	28.62
1940's	12.37	20.43	19.17	7.90	21.85	13.98	16.60
Other and No response	3.03	3.86	3.73	2.68	3.48	3.03	3.80
Totals	396	2124	2520	1304	1007	2311	4874

TABLE 63

PERCENT DISTRIBUTION OF FIRST YEAR IN WHICH TAUGHT

	Anywhere			In California		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total
1910's	0.08	0.04	0.06	0.00	0.00	0.00
1920's	6.59	2.52	4.64	2.09	1.07	1.60
1930's	11.68	9.02	10.40	4.03	4.66	4.33
1940's	12.35	13.85	13.07	13.58	10.85	12.27
1950's	1.85	2.99	2.40	2.29	2.18	2.24
1951's	2.33	2.82	2.56	2.37	2.05	2.22
1952's	2.29	2.18	2.24	2.72	2.18	2.46
1953's	2.49	3.21	2.83	2.96	3.33	3.14
1954's	2.80	2.82	2.81	3.55	3.38	3.47
1955's	2.80	3.42	3.10	3.24	3.12	3.18
1956's	2.72	3.55	3.12	3.35	3.93	3.63
1957's	2.84	3.89	3.34	3.12	4.49	3.78
1958's	3.71	4.44	4.06	4.10	4.66	4.37
1959's	3.83	5.30	4.53	3.71	5.64	4.64
1960's	4.50	4.87	4.68	4.93	5.77	5.33
1961's	4.58	5.21	4.88	4.70	5.85	5.25
1962's	5.25	4.74	5.01	6.16	5.73	5.95
1963's	5.76	5.26	5.52	6.12	6.24	6.18
1964's	7.02	5.68	6.38	7.81	6.75	7.30
1965's	7.14	5.60	6.40	8.96	6.97	8.00
1966's	4.38	5.34	4.84	6.55	8.16	7.32
Other and no response	3.00	3.25	3.12	3.67	2.99	3.34
Totals	2534	2340	4874	2534	2340	4874

Table 63 shows that the proportion of teachers with previous out-of-state experience has been higher for those beginning in California since 1964, than before.

We found that 22% of California teachers have taught (not including gaps) 0-3 years, 36% 4-10 years, 27% 11-20 years, and 13% more than 20 years.

Table 64, the distribution of the years in which teachers received their Bachelor Degree, shows a number of trends. First the number of teachers, both male and female, increases by year. This is partly because of the attrition of older teachers, partly because the colleges have tended to produce more teachers every year. Second, we see the affects of military events on the production of male teachers. A higher proportion of male teachers than would be expected received their Bachelor's in 1950. The outbreak of the Korean War reduced

TABLE 64

PERCENT DISTRIBUTION OF WHEN RECEIVED

	Bachelor's Degree			First California Credential
	Male	Female	Total	Total
1910's	0.06	0.	0.02	0.04
1920's	1.65	2.46	2.17	1.72
1930's	7.82	14.02	11.84	4.86
1940's	13.59	16.67	15.59	11.78
1950	6.71	2.20	3.79	2.24
1951	4.00	2.40	2.96	2.42
1952	4.24	2.11	2.86	2.34
1953	3.88	2.40	2.92	2.97
1954	3.71	2.65	3.02	3.32
1955	3.24	1.85	2.34	3.26
1956	3.47	2.68	2.96	3.61
1957	4.65	2.52	3.27	3.78
1958	6.35	3.42	4.45	4.60
1959	4.47	3.16	3.62	4.21
1960	5.06	4.41	4.64	5.09
1961	4.88	4.79	4.82	5.35
1962	5.18	5.40	5.32	5.99
1963	4.35	6.13	5.51	6.38
1964	4.41	7.19	6.21	6.89
1965	4.00	6.55	5.65	7.88
1966	1.53	2.75	2.32	4.37
Other and no response	2.76	4.25	3.73	6.50
Totals	1700	3131	4831	4874

the number of male teachers in 1951 and in 1953 to 1956. In 1958, the male teachers who did not received their degrees because of the Korean War did finally achieve their degrees. We do not know why the number of female teachers receiving their degrees in 1955 is unusually low. The number of female teachers receiving their degrees dropped slightly from 1964 to 1965 and dropped enormously from 1965 to 1966. There is a similar enormous drop for males from 1965 to 1966. We believe this happened because of the institution of the 1961 Certification Act. The institution of a five-year program for elementary teachers saw to it that those who normally would have (under a four-year program) graduated in 1966 will do so in 1967. We also see, in the year in which California teachers received credentials, a similar drop in the number receiving credentials in 1966. Evidently, 1966 entrants included many returners.

7. Method of Credential Application

The plurality (42%) of present California teachers were recommended for their credentials by a California college or university. A third applied directly to the State, and about a fifth applied through a county office or school district.

8. Salaries

Table 65 shows that in grades K-6, male and female salaries are similarly distributed. In grades 7-12, male salaries are considerably higher than female.

Male high school teachers are much better paid than male K-6 teachers. Female high school teachers are slightly better paid than female K-6 teachers. Nevertheless, male teachers find it necessary to earn income by methods other than teaching. Forty-five percent of the male teachers earned money during the summer by teaching summer school, (21%) planning curricula for pay, (3%) or working at some other job (21%). Only 20% of the female teachers did this, (12%, 2%, and 7% for the three types, respectively.) Conversely, almost twice as many women teachers as men (45% versus 25%) rested and traveled in the past summer. About 22% of both groups took courses. We found little difference between K-6 and 7-12 teachers on summer activity.

One out of every three male teachers, but only one out of every twenty female teachers took employment in addition to teaching, within the academic year. The proportion of K-6 male teachers (37%) working during the year was higher than that for male 7-12 teachers (30%).

Multiple job holding among California teachers contrast markedly with that found in a Department of Labor study* which found that 6% of men held more than one job. Seventeen percent of K-12 teachers held more than one job. That California multiple job-holding is twice as common as that for K-12 teachers throughout the whole country in 1962 may be due to unusual difficulties California teachers have in receiving an adequate income through teaching along. It may also be due to what is believed to be a more achieving ethos in California, where it is believed that there is more multiple job holding than in the rest of the country.

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* J. Shiffman, "Multiple Job Holders in May 1962," Monthly Labor Review, May 1963.

TABLE 65

PERCENTAGE DISTRIBUTION OF
ANNUAL SALARY FOR THE CURRENT SEPTEMBER-JUNE SCHOOL YEAR.
INCLUDES MONEY RECEIVED FOR COACHING

	K - 6			7 - 12			All
	Male	Female	Total	Male	Female	Total	
Less than $6,050	8.33	9.32	9.17	2.68	5.66	3.98	6.63
$6,050-6,949	17.17	22.74	21.87	8.90	18.78	13.24	17.67
$6,950-7,999	22.22	20.81	21.03	12.88	21.55	16.66	18.92
$8,000-9,049	21.72	18.17	18.73	18.10	16.58	17.44	18.03
$9,050-9,949	9.60	9.65	9.64	12.04	9.33	10.86	10.24
$9,950-10,999	11.36	10.08	10.28	21.01	13.60	17.78	13.83
$11,000-12,4999	8.33	6.97	7.18	20.48	12.12	16.83	11.76
$12,500 or more	0.51	0.	0.08	2.38	0.50	1.56	0.78
Other and no response	0.76	2.26	2.02	1.53	1.79	1.64	2.15
Totals	396	2124	2520	1304	1007	2311	4874

H. SUMMARY OF SECTIONS B. THROUGH G. OF THIS CHAPTER

A significant minority of California teachers are graduates of out-of-state TPI's.

Superintendents feel that the frequency of changes in credential requirements is likely to reduce the supply of elementary teachers and that the new credential requirements would decrease the supply of elementary teachers. California TPI's indicate that frequency of change of certification requirements and the interpretation of these requirements create difficulties in implementation.

In California TPI's, the modal responses to the 1961 Certification Act are educational faculty: mixed; subject matter faculty: positive; administration: neutral or negative; placement personnel: negative. California TPI groups' responses to the 1965 Certification Act were: education faculty: positive or negative; subject matter faculty: neutral: administration: neutral; placement personnel: neutral or positive.

Most California TPI faculty members believe that the current credential regulations have raised academic standards for teacher education. Opinion is split, however, on whether these requirements have raised the prestige of teachers. Both subject matter and education faculties are uncertain whether the academic major requirement is appropriate for potential elementary teachers.

Faculty members concur with the data in believing that the 1961 Certification Act was responsible for a shift out of elementary and into secondary candidacy. Student dissatisfaction with the subject matter requirement has caused them to shift to secondary teaching candidacy.

Faculty members agree with the data in believing that the new certification requirements have not caused students to choose other careers over teaching.

1961 Certification Act implementation by the TPI's was spread over a number of years.

Significant local variations exist among school districts with respect to culture, geography, closeness to TPI's, closeness to large metropolitan areas, and the concomitant teacher shortages and applicant to vacancy ratios.

Few school personnel administrators have specific training in this area. Very few districts require training in recruiting for their recruiters. Districts make little effort to recruit returners or experienced teachers from out of state.

Starting salaries are relatively similar among districts, but the range between starting and highest salaries are very different.

Seventy percent of districts have at least two applicants for each vacancy at the K-6 level; 88% have at least two applicants for each vacancy at the 7-12 level. A few districts have applicants but no vacancies; conversely, a few have vacancies but no applicants.

Items considered important by significant proportions of teachers in choosing districts include the guarantee of a teaching assignment, freedom to teach the way they think they should, salary, being close to a community where husbands have jobs, and quality of the superintendent, principal, or administrative staff.

Many more teachers indicate that the example of an inspiring elementary or high school teacher was influential in motivating them to teach than that the examples of inspiring college teachers or high school or college counselors had the same effect. The chance to help others and contribute to society and security were the most frequently mentioned motivations for going into teaching.

Good income and prestige (for 7-12 teachers) were most frequently mentioned as more achievable in other feasible careers.

Many women leave teaching to raise children. A large proportion of these have not come back and form a reservoir who might return to teaching.

Great confusion exists about subject matter shortages. Superintendents' offices typically do not have such information available. There is a definite need for a reporting system which would apprise each district superintendent, and through him the State Department of Education, of the frequency of assignments of teachers for reasons of necessity, rather than for reason of the teacher's education. Judged by our survey's data on teachers assigned to areas in which they did not have formal education in depth, there are shortages in physics and mathematics. We have no data on school districts which did not teach courses because of secondary school teacher shortages. We fail to find shortages in other areas where others believe they exist.

Present teachers of drama, geography, the mentally retarded, physics, general science, and speech are less likely than the typical teacher to intend to stay in the same district. Teachers in biology, chemistry, physics and general science are relatively more likely to intend to move up in K-12 level or teach at a four-year college. Teachers in the sciences and mathematics, and driver education, foreign languages, geography, history, industrial arts, mentally retarded, and trade technical subjects, have relatively high salary distributions.

Eight percent of California teachers hold general elementary credentials but are not teaching under them. California teachers hold an average of 1.38 credentails per teacher. Only a tiny minority of teachers have either provisional certificates or certificates on partial fulfillment.

A majority of California teachers have completed one or more years of college or graduate school work after their bachelor's degree. Secondary school teachers tend to have more graduate credits and degrees than elementary, which accounts for their higher salary levels.

Wars influence the years when men graduate from college. The 1961 Certification Act with institution of a five-year program for elementary teachers saw to it that those who would normally (under a four-year program) have graduated in 1966 will do so in 1967, thus causing a drop in the number of 1966 graduates, compared to the 1965 graduates. Many more returners seem to have taught, beginning in 1966, than in previous years. Much of the recruiting of experienced teachers takes place upon teachers' own initiative.

Female high school teachers are only slightly better paid than female K-6 teachers. Male high school teachers are much better paid than male elementary school teachers.

Forty-five percent of male teachers earn money during the summer. One out of three male teachers took employment in addition to teaching, during the academic year. This rate is twice as high as that for teachers nation-wide.

IV. DEMAND PROJECTIONS

A. HOW PROJECTIONS ARE MADE

Demand projections for the pupil population are published periodically in California Population. Tables 1 and 2 show the latest projection available. They are derived by the California Department of Finance, Budget Division, Financial and Population Research Section. Information about the methods used to compute them was kindly furnished to ADL by Mr. Joseph Freitas, of that section.

The method depends considerably upon judgment, and is based on the cohort survival method. For instance, they find the number of fifth graders in 1964 and sixth graders in 1965. The difference is assumed to show migration into California. The differences are computed as proportions of the 1964 fifth graders. The percentage of increase is then applied to the 1965 actual fifth grade figures to give 1966 projections, etc.

There is evidence that migration has been slowing down. For example, in 1965 there were fewer third graders than there were second graders in 1964. This may possibly indicate an unusually high out-migration rate for the parents of 1964 second graders. Complicating the situation are changes in the reporting system, administered by the Bureau of Educational Research of the State Department of Education, beginning in 1965. This has to do with the way that students in special schools for the mentally retarded were classified.

There are probably data transmission problems. Each school submits reports to its district, thence to the county, thence to the Bureau of Educational Research.

The school cohort survival data is used to project the population of the entire state, and not vice versa. There seems to be good reasons for this. Censuses are at best quinquennial, at worst decennial.

They have no way of coping with the following rather minor problems:

mortality of school children,

changes in proportions of school children going to parochial or private schools,

children dropping out of school.

It is our understanding that their projections have been found to be unusually accurate. Accordingly, September, 1966 estimates were used unchanged in this study, combined with the latest available estimates on special education needs from the latest issue of Dr. Blair

Hurd's annual study, California's Need for Teachers, 1965-1975, and data from the 1965 edition of California School Enrollment. Legislative Education Code Section 17506 was also taken into account in estimating future elementary school pupil/teacher ratios.

Table 66 shows the results of our projection calculations.

B. PROJECTIONS

1. By Grade

Total elementary enrollment varies from 2.2 to 2.7 million from 1959 through 1965. It was projected to rise from 2.8 to 3.3 million between 1966 and 1974. High school enrollment rose from 1.0 million to 1.5 million between 1959 and 1965. It is expected to rise to 2.1 million by 1974. Total California school enrollment went from 3.2 million in 1959 to 4.2 million in 1965. It is projected to go from 4.4 million in 1966 to 5.4 million in 1974. In terms of teachers, it was estimated that there were 111,000 in 1959, rising to 154,000 by 1965. The need for teachers is projected from 1956, at 162,000, to 1974, at 206,000.

2. Pupil/Teacher Ratio Trends

Elementary regular teacher/pupil ratios improved from 31.7 to 30.4, between 1959 and 1965. They are legislated to improve, between 1966 and 1969; this was taken into account in the ratios shown for those projections, which end up with a 29.5 to 1 pupil/teacher ratio.

Regular high school pupil/teacher ratios went from 24.5:1 in 1959 to 24.8:1 in 1965. They were estimated to remain until 1974 at approximately the latter level.

C. REASONS FOR INCREASES IN NUMBER OF TEACHERS

Superintendents indicated reasons for increases (sometimes more than one per district) in the number of teachers in their district. About 19% indicated that no increase had occurred; about 29% gave no response. Thirty percent cited an increase in the number of students, 12% changes in the teacher/pupil ratio, and 12% of the elementary districts and 5% of the secondary districts stated that federal programs were responsible for increases in the number of teachers in their districts. None of the elementary and only 1% of the secondary districts indicated that they had in the last year increased the number of teachers by reason of being able to fill long-standing vacancies.

TABLE 66

ENROLLMENT AND TEACHER DEMAND

Elementary Schools (Including Kindergarten)

School Year	Regular Classes			Special Education			Total	
Actual	Enrollment[a]	Ratio[b]	Teachers[c]	Enrollment[d]	Ratio[e]	Teachers[f]	Enrollment[g]	Teachers[h]
1959-60	2,157,462	31.7	67,959	32,106	14.0	2,299	2,189,568	70,258
1960	2,248,673	31.7	70,858	35,530	13.9	2,554	2,284,203	73,412
1961	2,337,950	31.6	74,002	39,968	13.9	2,877	2,377,918	76,879
1962	2,429,791	31.2	77.792	42,977	13.9	3,098	2,472,768	80,890
1963	2,522,696	31.0	81,389	45,999	13.9	3,313	2,568,695	84,702
1964	2,605,329	30.5	85,404	49,462	13.8	3,578	2,654,791	88,982
1965	2,690,440	30.4	88,501	50,448	11.4	4,413	2,740,888	92,914
Projected								
1966	2,762,406	30.3	91,169	76,330	11.4	6,696	2,838,736	97,865
1967	2,826,613	29.9	94,535	87,880	11.4	7,709	2,914,493	102,244
1968	2,879,925	29.9	96,319	100,020	11.4	8,774	2,979,945	105,093
1969	2,925,289	29.5	99,162	114,110	11.4	10,010	3,039,399	109,172
1970	2,949,133	29.5	99,971	127,900	11.4	11,219	3,077,033	111,190
1971	2,969,136	29.5	100,649	141,400	11.4	12,404	3,110,536	113,053
1972	3,005,124	29.5	101,869	153,650	11.4	13,478	3,158,774	115,347
1973	3,049,595	29.5	103,376	164,000	11.4	14,386	3,213,595	117,762
1974-75	3,097,817	29.5	105,011	174,420	11.4	15,300	3,272,237	120,311

High Schools (Including Jr. High)

School Year	Regular Classes			Special Education			Total	
Actual	Enrollment	Ratio	Teachers	Enrollment	Ratio	Teachers	Enrollment	Teachers
1959-60	990,476	24.5	40,363	10,701	14.0	767	1,001,177	41,130
1960	1,072,055	24.8	43,237	11,843	13.9	851	1,083,898	44,088
1961	1,153,460	25.2	45,684	13,322	13.9	959	1,166,782	46,643
1962	1,247,162	25.2	49,507	14,325	13.9	1,032	1,261,487	50,539
1963	1,344,309	25.2	53,322	15,332	13.9	1,104	1,359,641	54,426
1964	1,418,065	24.7	57,319	16,487	13.8	1,193	1,434,552	58,512
1965	1,462,169	24.8	58,958	24,072	10.4	2,324	1,486,241	61,282
Projected								
1966	1,546,594	24.8	62,363	25,430	10.4	2,445	1,572,024	64,808
1967	1,609,882	24.8	64,915	29,290	10.4	2,816	1,639,172	67,731
1968	1,682,803	24.8	67,855	33,340	10.4	3,206	1,716,143	71,061
1969	1,745,287	24.9	70,092	38,040	10.4	3,658	1,783,327	73,750
1970	1,809,244	24.9	72,660	42,630	10.4	4,099	1,851,874	76,759
1971	1,871,059	24.9	75,143	47,150	10.4	4,534	1,918,209	79,677
1972	1,918,558	24.9	77,051	51,220	10.4	4,925	1,969,778	81,976
1973	1,970,606	25.0	78,824	54,670	10.4	5,257	2,025,276	84,081
1974-75	2,016,098	25.0	80,644	58,140	10.4	5.590	2,074,238	86,234

School Year	All Schools	
Actual	Enrollment[i]	Teachers[j]
1959-60	3,190,745	111,388
1960	3,368,101	117,500
1961	3,544,700	123,522
1962	3,734,255	131,429
1963	3,928,336	139,128
1964	4,089,343	147,494
1965	4,227,129	154,196
Projected		
1966	4,410,760	162,673
1967	4,553,665	169,975
1968	4,696,088	176,154
1969	4,822,726	182,922
1970	4,928,907	187,949
1971	5,028,745	192,730
1972	5,128,552	197,323
1973	5,238,871	201,843
1974-75	5,346,475	206,545

(a) Elementary. 1959-60 to 1964-65 from Table 7 of Blair Hurd, California's Need for Teachers, 1965-1975, which, in turn, is based upon Magnuson, H. W. and Tashnovian, P. J., Enrollment in California Public Schools, Sacramento, California State Department of Education published annually.

1965-66, computed directly from Enrollment in California Public Schools.

1966-67 to 1974-75. We added the regular elementary enrollment in our data (based on Magnuson and Tashnovian, op.cit) for 1959-60 through 1965-66. We added the kindergarten through grade 8 enrollment reported by the State Department of Finance for the same years. The latter are organized strictly by grade level, while the former exclude seventh and eighth graders in junior high schools. We computed a ratio of the former, divided by the latter. This ratio, .893, was applied to the 1966-67 to 1974-75 State Department of Finance kindergarten through grade 8 projections. to provide our elementary projections.

Secondary. 1959-60 to 1964-65. From Hurd, op.cit.

1965-66, same as elementary.

1966-67 to 1974-75. Similar to elementary. In addition to the difference from the State Department of Finance in definition of the level, the data in Enrollment in California Schools include sizable groups of special pupils and pupils in compulsory continuation classes, not included in the State Department of Finance grades 9 through 12 data. The ratio for secondary, 1.338, was applied to the Department of Finance's projections in the same way as was done for elementary projections.

(b) Elementary. 1959-60 to 1964-65. From Hurd, op.cit.

1965-66. Interpolated.

1966-67 to 1974-75, assume grades 1-3 ratio reaches 28:1 in 1968; grades 4-8 (other than pupils in junior high school) were assumed to remain at the present ratio, 30.5:1.

Secondary. 1959-60 to 1964-65. From Hurd, op. cit.

1965-66. Interpolated.

1966-67 to 1974-75. From Hurd, op.cit.

(c) 1959-60 to 1964-65. From Hurd, op.cit.

1965-66 to 1974-75. $\frac{a}{b}$

(d) 1959-60 to 1964-65, from Hurd, op. cit.

1965-66, from Magnuson and Tashnovian, op.cit.

1966-67 to 1974-75, from Hurd, op. cit.

(e) 1959-60 to 1964-65, from Hurd, op. cit.

1965-66 $\frac{d}{f}$ (see f, below)

(f) 1959-60 to 1964-65, from Hurd, op. cit.

1965-66 h - c. See h below.

1966-67 to 1974-75 $\frac{d}{e}$

(g) a + d

(h) 1959-60 to 1964-65, from Hurd, op. cit.

1965-66 from Magnuson and Tashnovian, op. cit.

1966-67 to 1974-75 c + f

(i) (g) elementary + (g) high school

(j) (h) elementary + (h) high school

V. OUTPUT

A. ATTRITION STATISTICS

1. General

We see in Figure 2 that the most common known reason given by superintendents of 81 California school districts for their teachers terminating was working conditions in the school system, given for about 17% of the males and 12% of the females, although 25% of the males and about 17% of the females left for reasons unknown to their superintendent. About 23% of the female teachers left because of pregnancy, and about 17% because their husbands moved. Fringe benefits, lack of prestige, going to federal programs, death, return to college, salary, promotion and advancement out of education, family pressures, other reasons, administrative job and education, were all given as reasons for considerably fewer than 5% of any group leaving. School system working conditions quite obviously require serious self-appraisal on the part of the district and the school system in general.

The largest category of termination reasons by sex and level combined is reason unknown. This category can be rationalized by saying that if a departing teacher does not want to give a reason for leaving there is no way to force the issue. This is true. However, the high rate in this category is more likely related to the personnel practice of the districts and particularly the exit interview and record keeping procedures. Exit interviews, if conducted properly, provide much valuable data. It would appear that a better program of exit interviewing and record keeping on the data elicited during such interviews is in order if a meaningful and definitive data base on attrition is to be established.

We see in Table 67 that the most common attrition ratio (AR) for schools lies in the range 0.0 to 0.2 for both levels and sexes. Only about 10% of schools have K-6 AR's greater than 0.40. Fewer than 8% of schools have grade 7-12 attrition greater than 0.40. In each level, the female attrition rate is higher than the male.

Note that these attritions are not necessarily losses to teaching. Many of them will teach at other schools in other districts. In this study we will use the word loss to refer to those who have left the teaching profession, and attrition to refer to those who have left a school or a district.

We found differences among teachers of differing years of experience in why they left their immediately previous California district. As we would expect, the proportion of teachers who never left a teaching position in a California district decreases with increasing experience, from 69% of those with 0-3 years, to 32 % of those with more than 20 years. The frequency of a reason unconnected with a school district or

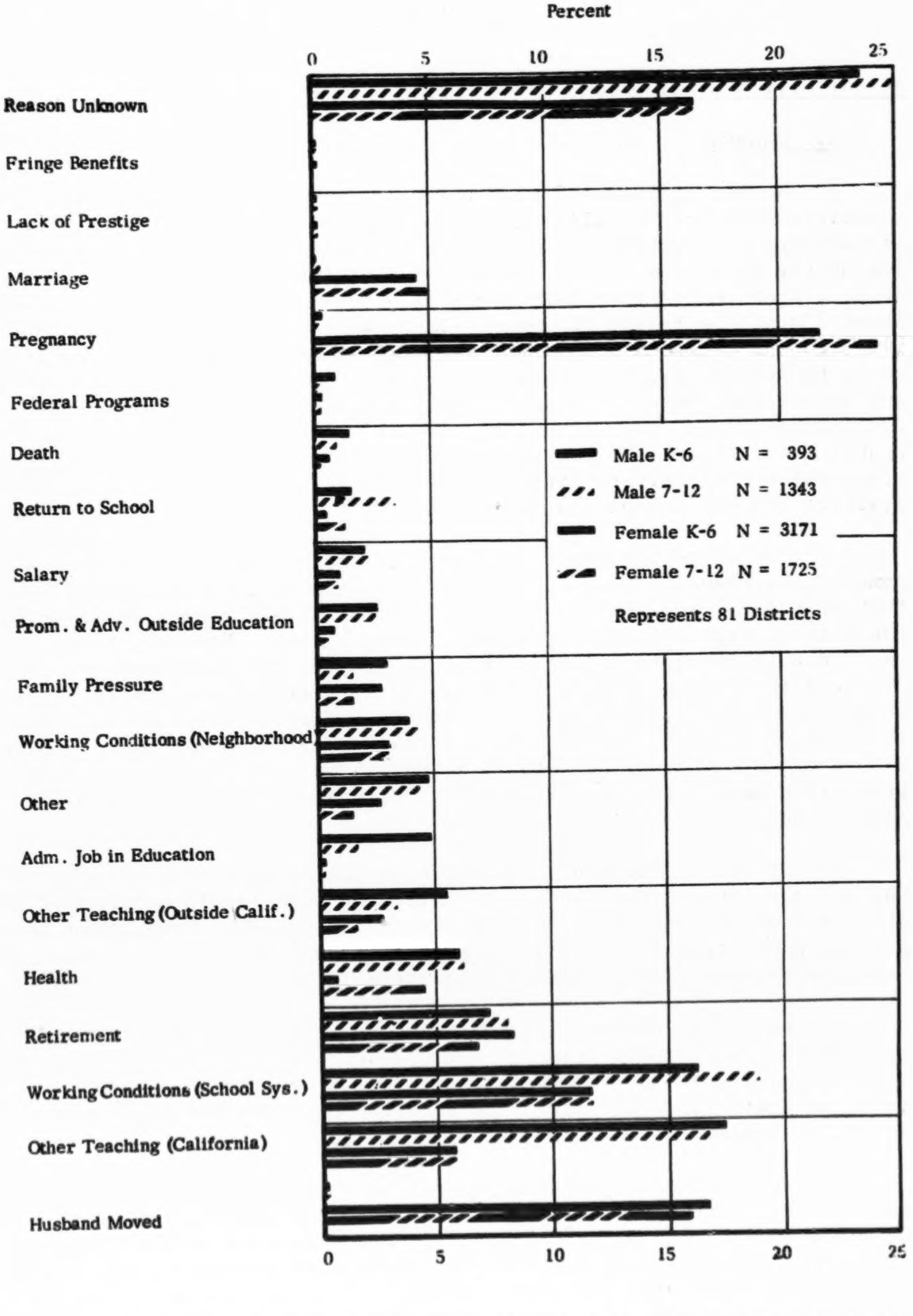

FIGURE 2 TERMINATIONS BY CATEGORY FOR SCHOOL YEARS BEGINNING SEPTEMBER 1964 AND SEPTEMBER 1965

TABLE 67

PERCENTAGE OF PRINCIPALS REPORTING GIVEN TERMINATION/EMPLOYMENT RATIOS BY SEX & GRADE LEVELS FOR SCHOOL YEARS BEGINNING SEPTEMBER 1964 & SEPTEMBER 1965

T/E RATIO	MALE K-6	FEMALE K-6	MALE 7-12	FEMALE 7-12
	%	%	%	%
0.0-0.2	69.89	68.13	79.76	71.43
0.2-0.4	15.75	23.90	13.69	22.62
0.4-0.6	6.63	5.49	4.17	2.98
0.6-0.8	2.76	0.27	0.60	0.00
0.8-1.0	4.97	2.20	1.79	2.98
N =	362	364	168	168

community increases with increasing experience from 5% for the former to 15% of the latter group. Thus, teachers of increasing experience, if they leave, leave for reasons that cannot be controlled by the district. Insufficient salary increases as a reason for leaving with increasing experience, given by 2% of those who left, who have taught between 0 and 3 years, and 9% who have taught more than 20 years.

2. By Sex and Level

As would be anticipated, Figure 2 shows marked differences, by sex, in the reasons for leaving for certain categories. These category differences are related to the role of women in our society. The ones more frequent for women are (1) husband moved, (2) marriage, and (3) pregnancy. Three other categories have marked differences; (1) working conditions (school system), (2) other teaching (California), and (3) reason unknown. The first two may well be related to the role of the male but not as obviously as the three related to the female role discussed earlier. As the breadwinner of the family, if married, and in any case as the one most generally considered as career oriented, the male will in all likelihood seek the most compatible surroundings for the pursuit of this career. He will also probably seek the most advantageous salary structure. The first reason is certainly related to the premise that he will seek the most compatible surroundings. The second reason may be related to both the premise related to surroundings and remuneration. He may view a move to another district as an answer to both these needs.

It would appear that women have little opportunity in administrative jobs in education. Approximately one-tenth of one percent of the females compared to 4% of the males attrited for this reason.

Grade level, i.e., K-6 and 7-12, does not, in general, appear to create as marked differences in attrition rates by category as does sex. There is some difference between the levels in the rate of attrition for pregnancy with a higher rate for the 7-12 level. This is probably a result of the number of unmarried females usually in the ranks of the K-6 group.

There appears to be more mobility in relation to teaching (outside California) among the K-6 group for both sexes. In view of the high percentage of inexperienced teachers at this level coming in from out of state, this mobility may represent a return to state of origin.

One rather curious lack of difference by level is for males in the category of health. The attrition rate for males is almost identical for both the K-6 and 7-12 levels. One would expect that there would be a rather clear difference with the higher rate being related to the 7-12 level since more of the older teachers could be expected at that level.

Teachers were asked about their plans two to three years from now (called short range) and their long range plans. Table 68 shows that the short range plans for about two thirds of the teachers include teaching the same grade, mostly in the same school. However, Table 69 indicates long range plans for this by only two fifths of teachers. About one sixth of the male elementary teachers intend to move up to secondary teaching level. Almost none of the female K-6 teachers share these plans. About one sixth of the male 7-12 teachers and one tenth of the female 7-12 teachers intend eventually to move up to junior college teaching. More than a quarter of male K-6 teachers and one eighth of male 7-12 teachers intend to become school administrators or supervisors or counselors.

Ten percent of women K-6 teachers have short range plans for college teaching. Seventeen percent of K-6 women and 14% of 7-12 women intend eventually to become full time homemakers. About 8% of the males at both levels have plans, either short or long range, to go into occupations other than teaching. About one eighth of the women plan in the next two or three years to do something other than teaching. As would be expected, the proportion of undecided teachers is far higher for long range than for short term plans. In summary, male teachers are far less likely than female to remain teaching in their present grades, more likely to move up from elementary to secondary and secondary to

TABLE 68

PERCENT INDICATING
PLANS 2-3 YEARS FROM NOW

	K - 6			7 - 12			All
	Male	Female	Total	Male	Female	Total	
Teach same grades in same school	41.67	57.49	55.00	51.00	53.72	52.19	53.45
Teach same grades in different school, same district	7.58	5.84	6.11	3.45	2.88	3.20	4.68
Teach same grades in another district	6.57	5.18	5.40	4.60	4.17	4.41	4.97
Move up (elementary to secondary; secondary to junior college) in teaching level	15.91	1.74	3.97	7.90	3.97	6.19	5.01
Become a school administrator/supervisor/counselor	0.76	0.28	0.36	1.61	0.50	1.13	0.72
Teach at four year college	0.00	10.36	8.73	0.15	8.34	3.72	6.30
Become a full-time homemaker	3.79	0.71	1.19	2.53	1.79	2.21	1.66
Go into an occupation other than teaching	9.60	12.66	12.18	8.05	13.31	10.34	11.24
Undecided	0.	0.09	0.08	0.08	0.	0.04	0.08
Other and no response	14.14	5.65	6.98	20.63	11.32	16.57	11.90
Totals	396	2124	2520	1304	1007	2311	4874

TABLE 70

SEX OF LEAVER AND REASON FOR LEAVING

	Sex		
	Male %	Female %	Total %
Unconnected with school district	9.9	38.6	25.4
Contract was terminated/asked to resign	2.0	2.0	2.0
No opportunities for promotion	15.3	2.4	8.3
No opportunity for originality	12.7	5.1	8.6
Paperwork	18.3	10.6	14.1
Personnel practices	18.2	8.4	12.9
Prestige of teaching too low	26.5	4.3	14.5
Problems presented by other teachers	3.5	2.8	3.1
Problems presented by parents	9.7	6.2	7.8
Problems presented by principal	16.7	10.3	13.2
Problems presented by pupils	16.5	13.7	15.0
Problems presented by superintendent	9.5	3.1	6.1
Problems presented by supervisor	3.8	2.2	2.9
Red tape	14.4	8.2	11.1
Salary too low	62.8	6.2	32.2
Unable to obtain California credential	0.8	0.6	0.7
None of the above	9.1	29.6	20.2
Totals	1080	1270	2350

TABLE 71

RATIO OF TERMINATIONS TO TEACHERS EMPLOYED IN DISTRICTS, BY SEX AND GRADE LEVEL

		Sex and Grade			
		Male		Female	
Region		K - 6	7 - 12	K - 6	7 - 12
1	Terminations	2	13	1	14
	Employed	2	151	25	81
	Ratio	1.00	.09	.04	.17
2	Terminations	25	23	135	36
	Employed	205	295	924	138
	Ratio	.12	.08	.15	.26
3	Terminations	5	11	18	4
	Employed	50	65	183	18
	Ratio	.10	.17	.10	.22
4	Terminations	24	48	172	69
	Employed	148	499	982	358
	Ratio	.16	.10	.18	.19
5	Terminations	6	9	49	6
	Employed	20	34	182	9
	Ratio	.30	.26	.27	.67
6	Terminations	40	101	188	52
	Employed	211	594	1327	383
	Ratio	.19	.17	.14	.14
7	Terminations	6	23	50	40
	Employed	71	423	298	262
	Ratio	.08	.05	.17	.15
8	Terminations	195	835	1850	1019
	Employed	3386	11,585	19926	10502
	Ratio	.06	.07	.09	.10
9	Terminations	8	37	62	60
	Employed	62	126	284	113
	Ratio	.13	.29	.22	.52
10	Terminations		39	9	36
	Employed	27	184	54	108
	Ratio	-	.21	.17	.33

TABLE 73

PERCENT INDICATING NUMBER OF SCHOOL DISTRICTS WHERE HELD POSITIONS

	In California			Out of California		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total
0	-	-	-	64.72	68.25	66.41
1	58.86	60.23	59.52	16.46	15.43	15.96
2	23.25	24.78	23.99	8.05	7.26	7.67
3	9.91	9.44	9.68	4.81	3.80	4.33
4	4.14	2.65	3.43	2.33	2.14	2.24
5	1.70	1.07	1.40	1.10	0.77	0.94
6	0.71	0.26	0.49	0.71	0.21	0.47
7	0.32	0.21	0.27	0.24	0.13	0.18
8	0.24	0.08	0.16	0.16	0.17	0.16
9 or more	0.16	0.04	0.10	0.16	0.04	0.10
Other and no response	0.71	1.24	0.96	1.26	1.79	1.52
Totals	2533	2341	4874	2534	2340	4874

borhood is less than 5%. Attrition rates for males 7-12 and females K-6 and 7-12, when related to indices associated with poverty areas, e.g., unemployment in families of students, fatherless homes, converted multiple dwelling, etc., estimated by principals, show no marked increase as the incidence of these factors increases in the neighborhood of the school, as we shall see in Section D of this chapter.

3. "Tough Discipline" Areas

Principals were asked about the frequency of four kinds of discipline problems: mischief, vandalism, absenteeism, and flaunting of authority. Two thirds indicated that none of these were frequent; one fifth that one was; 8%, two; 3%, three: and 2% said that all four types occurred frequently in their school.

4. Assignment Procedures

No analysis relating assignment procedures and termination/employment ratios were made since contingency frequency analysis of assignment procedures by sex and grade level did not reveal any outstanding differences. How much assignment procedures are a part of the attrition category "working conditions (school system)" which contributes so large a percentage of the attriters for both sexes and levels (see Section V A 1-3) is unknown. We assumed it is a part of this category and its relative importance is reflected somewhat in the slight differences revealed in the contingency analyses cited earlier in this paragraph.

We analyzed the relationship between number of years of teaching experience and the average size of the classes taught by the respondent. To our surprise, we found that longevity does not have any systematic relationship with class size. Evidently, teachers are assigned to a class of a given size without regard to length of teaching experience.

Table 74 indicates the relationship between number of years of teaching experience and percent of time spent teaching subjects in which the respondent is formally trained. In general, the less teaching experience, the more likely a teacher is to be teaching in a self-contained classroom. On the other hand, the more teaching experience a respondent has, the more likely he is to be spending 100% of his time teaching subjects in which he is formally trained.

We do not know whether more consideration is given to assigning senior teachers to the subjects in which they have depth of preparation, whether more experienced teachers have had longer to gain formal preparation in the subjects they are assigned to teach, or whether those assigned to subjects in which they are ill-prepared are more likely to leave teaching. As we shall see below, the last relationship holds true, but we do not know how much it affects the trends in Table 74, compared to the other possibly active relationships.

TABLE 76

ADEQUACY OF TRAINING AND SHORT RANGE PLANS

Short Range Plans	Self-Contained Classroom	Percent of Time Teaching Subjects in Which Prepared					
		100 Percent	75-99 Percent	50-74 Percent	25-49 Percent	Under 25 Percent	Total
	%	%	%	%	%	%	%
Teach same grades in same school	49.18	56.08	48.51	41.38	26.23	42.86	51.44
Teach same grades in different school, same district	5.06	2.90	4.61	5.17	3.28	3.01	3.80
Teach same grades in another district	7.08	4.01	5.96	8.62	3.28	6.77	5.38
Move up (elementary to secondary; secondary to junior college) in teaching level	4.68	5.80	5.42	6.03	9.84	6.02	5.55
Become a school administrator/ supervisor/counselor	0.13	1.04	0.81	1.72	1.64	0.75	0.79
Teach at four year college	10.24	3.66	3.52	3.45	6.56	4.51	5.52
Become a full-time homemaker	1.39	1.66	3.25	5.17	4.92	3.01	2.06
Go into an occupation other than teaching	14.79	9.67	11.65	12.93	14.75	15.04	11.79
Undecided	0.13	0.00	0.00	0.00	0.00	0.75	0.07
Other or Blank	7.33	15.19	16.26	15.52	29.51	17.29	13.61
Percent Totals	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Totals	791	1448	369	116	61	133	2918

For those who do not teach in a self-contained classroom the general tendency is that as percentage of time spent in teaching subjects for which the teacher is adequately formally trained decreases, fewer respondents plan to teach the same grades in the same school 2-3 years from now, while slightly increasing numbers plan to go into a non-teaching occupation. However, the apparent effect of percent of time spent teaching in trained subjects on plan to enter non-teaching occupations is anomalous. The general inverse relationship between percent of trained subject classroom time and immediate plans to teach the same grade in the same school tends to reverse itself for the under 25% category.

The relationship of percent of time spent teaching trained subjects to long range plans is similar to that for short range plans, as seen in Table 77.

No comparisons between attrition rates and such practical problems as classroom hours, as indicated by principals, were made due to the relatively slight differences revealed in contingency analyses. As with assignment procedures, we assume that the practical problems are part of the attrition category "working conditions (school system)", but no definitive statement as to the impact of such problems on the category can be made from those data.

Table 78 indicates that 71% of the K-6 teachers estimated the average size of their classes to be between 26 and 35. Fifty-five percent of the 7-12 teachers estimated their class size in the same range. We were surprised to find that 21% of 7-12 teachers but only 9% of K-G teachers have classes larger than 36 pupils.

Teachers were asked how much time they spent weekly outside regular school hours in various activities related to the school. In Table 79, unusually large proportions did not answer the question about time spent in evaluating papers, so its data are not reliable. Forty-two percent of California teachers spend less than 5 hours in planning lessons; 38% spend 6 to 10 hours. K-6 teachers indicate that they spend more time than 7-12 teachers in planning lessons. About 5% spend more than 20 hours a week planning lessons.

We see in Table 80 that 64% of California teachers indicate that they spend fewer than 5 hours a week on unpaid extra-curricular activities. Only 2% spend more than 20 hours. Similarly, 62% indicate that they spend fewer than 5 hours a week on professional non-classroom activities, such as curriculum development. Again, only about 2% spend more than 20 hours a week on this activity.

Table 81 shows that half of the teachers in our sample were teaching in self-contained classrooms. Of the others, about a third were teaching five periods a day, and a quarter six periods a day. Three percent were teaching seven or more periods a day. Of those not

TABLE 80

PERCENT INDICATING HOURS PER WEEK SPENT IN

	Unpaid Extra-Curricular Activities			Professional Non-Classroom Activities		
	K - 6	7 - 12	Total	K - 6	7 - 12	Total
0-5	59.91	68.25	63.91	60.58	64.27	62.35
6-10	3.95	8.68	6.22	9.55	11.92	10.69
11-20	0.99	2.74	1.83	1.70	2.74	2.20
More than 20	0.99	3.29	2.09	2.01	2.65	2.32
Too early to tell	4.58	4.87	4.72	5.33	5.85	5.58
Other and no response	29.60	12.18	21.24	20.84	12.56	16.86
Totals	2534	2340	4874	2534	2340	4874

TABLE 81

PERCENT INDICATING NUMBER OF

	Class Periods Taught	Preparation Periods	Different Subjects Taught
0 or not applicable	50.18	46.39	43.95
1	0.18	33.89	8.06
2	0.12	3.86	12.15
3	0.66	1.09	11.39
4	3.43	0.86	4.60
5	26.84	0.59	2.38
6	11.49	0.23	0.92
7 or more	2.73	0.18	1.13
Other and no response	4.37	12.91	15.43
Totals	4874	4874	4874

in self-contained classrooms, two thirds have one preparation period a day. About 7% have two preparation periods a day.

The number of different subjects which California teachers teach is fairly widely distributed. Of those not in a self-contained classroom, about 16% teach one, 24% two, 23% three, 9% four, and 5% five different subjects.

6. Teacher Compensation

As already mentioned, "salary too low" was given by their presently teaching acquaintance as reason for leaving for about 62% of the male and 6% of the female leavers. For the men, this is by far the most frequently given single reason given for leaving.

It is quite surprising to remember that only 3% of terminations take place because of salary, in the perception of superintendents.

Table 82 shows the effects of annual salary on long-range plans for male teachers. Undecided plans tend to decrease with increasing salary, while planning to teach in the same grades and the same school tends to increase with increasing salary. In general, the breaking point occurs at $9050. Thus, the long-range plans for those earning up to $9049 are mainly undecided, move up in teaching level, or become an administrator, supervisor or counselor. Moving up in teaching level is a substantially shared intention for all but the more than $12,500 salary group, while becoming an administrator, supervisor or counselor is a relatively important plan for all salary ranges. We cannot disentangle the correlated effects of longevity and salary on long-range plans.

Three long-range plans dominate the responses of female teachers: teaching the same grades in the same school, becoming a homemaker, and undecided. Teaching the same grades in the same school increases in frequency with increasing salary up to the $9950-$10999 range, decreases to 26% for the $11000-$12499 range, and reaches 0% for the $12,500 or more range. Becoming a homemaker, conversely, decreases in frequency from 26% for the lowest salary range to 11% for the $11000-$12499 range, and then jumps to 40% for the $12,500 and more category. The undecided response is fairly uniform in frequency over all salary ranges except the highest range, where it represents 0%. The clearest long-range plan pattern is given by the $12,500 or more salary category. Here, 40% of the respondents indicated "other", 40% planned to become a homemaker, and 20% planned to become an administrator, supervisor or counselor.

Table 83 shows reasons why teachers left previous positions in California. About one tenth of K-6 teachers and one quarter of 7-12 who have left a position did so for salary reasons.

7. Satisfaction with School and District as Perceived

Table 83 also shows that almost half of K-6 and almost 30% of the 7-12 leavers left so for reasons unconnected with the school district or community. Almost 30% of those who left had at least one reason for leaving that was additional to the one stated in the multiple choice answers. The largest single given reason for leaving was salary as mentioned above. The second most frequently mentioned was personnel practices, given by 11% of the K-6 leavers, and 16% of the 7-12 leavers. The next largest were problems presented by the principal, given as a reason by 11% of the K-6 leavers and 13% of the 7-12 leavers. Eleven percent and 10%, respectively, of the 7-12 leavers indicated a community political climate and a dull community as among the reasons.

Very few of either K-6 or 7-12 teachers indicated that the following reasons were important in leaving: terminated contract, housing problems, lack of social opportunities, no opportunity for originality, no opportunity for promotion, paperwork, problems presented by other teachers, problems presented by parents, problems presented by pupils, problems presented by superintendent, problems presented by supervisor, red tape, and leave of absence.

We wished to find out the aspects of school and district that were unattractive to teachers. To do so, we asked them to mark aspects that definitely contribute to their satisfaction in teaching and make them wish to stay there. We assume that aspects marked by very few teachers are unattractive and should be improved. They were allowed to mark more than one aspect, if applicable. In Table 84, the three most frequent satisfiers were:

Freedom to teach in own way (74%, 7-12; 68%, K-6)

Respect from other teachers (71%, K-6; 63%, 7-12)

Respect from school administrators (61%, K-6; 55% 7-12)

A great discrepancy exists between K-6 and 7-12 teachers on teaching subjects in which trained. Almost twice as many 7-12 teachers (73%) as K-6 teachers (40%) were satisfied with their district enough to make them wish to stay there, with respect to teaching subjects in which they are trained. This accords with information in the TPI interviews, which also indicated definite problems in the education of elementary teachers.

About half of California teachers are definitely satisfied with their salary. We shall not deal in the text with aspects of school and district with which fewer than half but more than 29% of California teachers are satisfied. The reader can find these in Table 84.

Let us examine district factors which are important and satisfying to between 20 and 29% of California teachers. These include teacher prestige among pupils, school protection of teachers from outside pres-

TABLE 84

PERCENT INDICATING ASPECTS OF SCHOOL AND DISTRICT THAT DEFINITELY CONTRIBUTE TO SATISFACTION AND MAKE TEACHER WISH TO STAY THERE

	K - 6	7 - 12	Total
Respect from other teachers	70.60	62.86	66.89
Respect from the community	49.84	40.90	45.55
Respect from school administrators	60.77	54.91	57.96
Teacher prestige among pupils	30.27	28.33	29.34
Personal interest by department heads	16.65	21.07	18.77
Personal interest by principal	47.04	36.41	41.94
Superintendent protection of teachers from outside pressures	22.02	20.77	21.42
School protection of teachers from outside pressures	30.19	28.08	29.18
Recognition of accomplishment by supervisors	26.36	25.34	25.87
Chance to choose classroom assignments	29.44	30.81	30.10
Chance to participate in planning programs and curricula	29.01	36.15	32.44
Freedom to teach in own way	68.07	74.53	71.17
Teaching subjects in which trained	39.98	73.38	56.01
Responsibility training student teachers/interns	12.55	10.94	11.78
Exciting school	10.89	12.48	11.65
Friendships with other teachers	51.66	43.59	47.78
Salary	51.34	52.44	51.87
Fringe benefits	21.55	21.15	21.36
Opportunities for professional growth	36.94	28.29	32.79
Opportunities for positions in administration and counseling	6.67	10.13	8.33
Ease of getting things done	20.92	17.22	19.14
Availability of substitutes when required	39.50	27.99	33.98
Quality of teaching aids	41.83	28.29	35.33
Availability of teaching materials	43.05	27.65	35.66

TABLE 85

PERCENTS INDICATING TWO CHANGES WHICH WOULD DO MOST TO KEEP TEACHERS IN PRESENT POSITIONS

	K - 6		7 - 12		All	
	Male	Female	Male	Female	Male	Female
Intend stay in any case	12.86	28.66	18.77	19.60	17.26	25.62
Better grouping practices	5.62	5.36	4.11	5.88	4.50	5.54
Better in-service education	1.76	1.56	1.75	1.58	1.75	1.56
District pays all fringe benefits	8.36	2.51	7.13	2.71	7.44	2.58
More help from consultants	1.28	2.09	.87	1.88	.98	2.02
More help from teacher aids	3.85	6.16	3.67	6.10	3.72	6.14
One more preparation period	8.03	6.43	10.04	12.97	9.53	8.62
10% higher salary	27.81	13.85	25.46	14.10	26.06	13.93
10% smaller classes	14.63	17.54	13.06	16.21	13.46	17.10
Other and no response	7.87	5.70	7.95	8.52	7.93	6.65
Nothing I can think of	7.87	10.08	7.13	10.40	7.32	10.19
Totals	622	2627	1822	1326	2444	3953

important, were also infrequently marked as among the two least important in another question. Conversely, those incentives infrequently marked among the two most important were frequently marked as among the two least important.

Table 86 shows the effect of a salary or fringe benefit increase upon retention intentions for teachers with given salaries.

We found that raising salary by ten percent and free fringe benefits were equally attractive for all salary ranges. This is consistent with the economist's notion of the incremental effect of salary and other money changes: an equal percentage difference, rather than an equal absolute difference will be equally reacted to.

Most incentives are equally attractive to teachers with varying average class sizes. However, the 10% smaller classes incentive increases markedly in its attractiveness to teachers as their class size increases.Five percent of those with class size below 20, 25% with classes between 36 and 40 consider this one of the two most attractive incentives. There is a slight dip to 17% for class size more than 40.

An incentive not included in the questionnaire, but which is probably important, is that of giving credit for the California teachers' retirement system for time spent teaching elsewhere. This is not done now. This was mentioned in a large proportion of the letters sent to Arthur D. Little, Inc. in response to question 75 of the teacher survey, which asked teachers to mention anything not included in the questionnaire that might help to increase teacher retention in California. We quote a typical letter from a teacher in a high school district:

> "There is an organization in Calif. called Arcoss that is attempting to get out-of-state teaching time credited in the Calif. Teacher's Retirement System. Legislation has been written to accomplish this. This matter should come before the next session of the legislature (1967). If, in any way, you can support this legislation I believe its effect, if passed, will be felt for many years ahead in the recruiting of out-of-state teachers to help meet the growing need in this state. If recruiters can promise that the teachers will receive recognition for out-of-state service in the Calif. Tea. Retirement System then, I believe, we can get tried and proven, experienced teachers to come to Calif."

Table 87 shows how many teachers are involved if legislation were to accomplish this change. Reading down, we see the percentage of teachers first teaching in California in a given year, who first taught in previous years. Thus, for example, 3% of teachers entering California in the 1930's taught elsewhere in the 1910's and 20's. This table gives us some idea of the additional years that would be credited to specified numbers of teachers, when we use the percentages in the main body to the table, in conjuction with the estimated number of teachers in 1967 who entered California teaching in given years. For example, looking at the fourth column, we see that 70% of the 22,810 teachers who first taught in California in 1950-54 first taught anywhere in the same time period. Twelve percent of them, or about 2,400, first taught in the 1940's. They would be given credit, on the average, of approximately seven years (1945 to 1952) for service outside California. This is a pessimistic estimate, because some time between their first year teaching and their first year in California may have been spent in occupations other than teaching, especially acting as a full-time homemaker.

It is believed that the granting of out-of-state retirement credit will be especially important for elementary teachers, of whom a larger number than of secondary teachers are older women.

C. DESTINATIONS FOR THOSE LEAVING TEACHING

1. To Administration

Responses to the superintendent's questionnaire regarding the destination of attriters indicate that for the period covered by the survey less than 5% were headed for administrative jobs in education. (See Figure 2). This percentage held only for males at the K-6 level. Males at the 7-12 level contributed less than 2% while females at both levels were less than one-half of 1%. These percentages are in consonance with the destinations of friends of current teachers who have left teaching, as reported in the teacher's survey. Table 88 shows that about 3% of the K-6 "leavers" and 5% of the 7-12 "leavers" took non-teaching positions in school districts.

2. To Other Districts

This category represents another large percentage in the mobility of teachers. The superintendents reported that other teaching in California represented as high as 17% of the reasons for males and 8% for females terminating at both levels. Superintendents reported that approximately 50% of newly hired experienced teachers at both levels were teaching in other districts the year prior to their employment in that district.

3. To Homemaker Status

Data gathered on the destination of friends of teachers who have left indicate that a third and an eighth respectively at the K-6 and 7-12 levels left teaching to become homemakers. The data from the superintendent's survey, as pointed out in Section VA, indicates a high percentage of losses due to pregnancy and the movements of the

TABLE 88

PERCENT INDICATING REASONS ACQUAINTANCE LEFT TEACHING, BY GRADE LEVEL OF CURRENT TEACHER

Reason	K - 6	7 - 12	Total
Health	2.09	1.45	1.78
To retire	11.13	7.56	9.42
Become full-time homemaker	15.79	6.62	11.39
Take non-teaching position in a school district	1.42	2.52	1.95
Take position in a special Federal education program	1.34	2.18	1.74
Take another kind of position	17.44	29.02	23.00
Other and no response	50.79	50.64	50.72
Totals	2534	2340	4874

TABLE 89

PERCENT INDICATING REASONS ACQUAINTANCE LEFT TEACHING, BY SEX OF LEAVER

Reason	Leaver's Sex			
	Male	Female	Unknown	Total
Health	1.42	5.25	6.15	3.62
To retire	5.79	27.75	46.15	19.11
Become full-time homemaker	0.09	43.27	20.77	23.11
Take non-teaching position in a school district	6.17	1.89	5.38	3.96
Take position in a special Federal education program	4.84	2.05	6.92	3.54
Take another kind of position	81.69	19.79	14.62	46.67
Totals	1054	1218	130	2402

in the schools. The first range, called blank or "zero percent", consisted of attrition rates, a few of which were actually zero, but most of which had been left blank by the principal. These were not used in the analyses described below, although we show them on the tables.

The other attrition rate ranges used are: 0-4, 4-9, 9-14, 14-19, 19-29, and 29 or more. These provided a fairly even distribution of the schools among categories.

2. Background

Table 90 shows the distribution of AR's by level, sex, and school district sizes, as background for the discussion below of factors related to AR.

We can see that attrition rates of blank or zero (mostly the former) are more common in small than in large school districts. In small and large districts, and grades 7-12, attrition rates are higher for women than men. In small districts the female K-6 and female 7-12 attrition distributions are very similar. In large districts, however, female 7-12 attrition rates are higher than those for female K-6.

Comparing small and large districts, the attrition rate is higher for small districts for K-6 females and about equal for 7-12 females and males.

3. Characteristics Associated with Attrition

Variables which appeared to be related to attrition were subjected to tests of statistical significance. Only those significant at better than the .05 level are described below and included in Table 91. Characteristics found unrelated, by this criterion, to AR, are listed in Table 92. Some variables which passed an even more stringent test, being significant at the .01 level, are so indicated in Table 91. Significance at the .05 level indicated that the difference in AR's between two groups, i.e., teachers with and without a given characteristic, could have happened randomly only five times out of one hundred. This is considered by statisticians to be sufficiently unlikely to have occurred by happenstance, that the difference between the two sample groups represents a real difference between two population groups defined in the same way.

These differences represent association. They do not prove causality. Each relationship found must be examined on its own merits, and in the context of known relationships among the variables, before we can conclude that presence or absence of a variable causes a lower attrition rate.

The complete data for the variables listed in Table 91 are

TABLE 90

PERCENTAGE DISTRIBUTION OF ATTRITION RATES FOR GRADE, SEX, AND SIZE OF DISTRICT

	K-6 F		7-12 F		7-12 M	
ATTRITION RATES	SMALL	LARGE	SMALL	LARGE	SMALL	LARGE
Blank or 0	17.8	14.6	33.4	16.9	23.1	15.7
0 -4	3.7	6.1	0.	0.	12.1	10.3
4 - 9	11.5	19.2	4.5	15.8	27.6	36.3
9 - 14	8.9	17.7	13.4	8.9	13.6	9.5
14 - 19	18.5	15.8	14.0	22.3	12.3	9.5
19 - 29	24.6	15.9	22.4	26.2	7.3	12.2
29 or more	14.9	10.7	12.3	9.8	3.9	6.4
Number of teachers	763	891	464	461	536	515

TABLE 91

VARIABLES RELATED* TO SCHOOL ATTRITION RATES

HYPO-THESIS	VARIABLE	K-6 W		7-12 W		7-12 M		CATEGORY
1	Hold M.A.		$\underline{S}$					Education
5	First District Taught In	L	S					Miscellaneous
6	Class under 30	$\underline{L}$**		$\underline{L}$	S	$\underline{L}$**		Working Conditions
8	Under 5 hours Planning Lessons				S			Working Conditions
10	Under 5 hours Curriculum Development					$\underline{L}$		Working Conditions
12	Salary over $8,000					L	S**	Financial
13	Under 6 Class Periods					L**	S	Working Conditions
15	Satisfaction Personal Interest Dept. Head			L				Human Relations
16	Satisfaction Training Student Teachers	$\underline{L}$**						Working Conditions
17	Satisfaction Exciting/Dull School	$\underline{L}$						Working Conditions
18	Satisfaction Easy Get Things Done						$\underline{S}$	Working Conditions
19	Satisfaction Number of Classes					L**		Working Conditions
20	Satisfaction Preparation Periods						S	Working Conditions
23	Satisfaction Quality of Fellow Teachers	L**				L**	S**	Human Relations
25	Satisfaction Pupils Cultural Background					L	S**	Pupils
26	Satisfaction Pupils' Intellectual Quality		$\underline{S}$**	L		L	S**	Pupils
28	Satisfaction Teacher Prestige Among Pupils				S			Pupils
29	Satisfaction Supt. Protection from Outside			L				Working Conditions
30	Satisfaction School Protection from Outside			L	S			Working Conditions
33	Satisfaction Fringe Benefits	L**				L**		Financial
34	Satisfaction Class Size			L	S			Working Conditions
36	Satisfaction Pupil Discipline	L				L**		Pupils
38	Satisfaction Opportunities Prof. Growth						S	Working Conditions
40	Satisfaction Teaching Aids			L			$\underline{S}$	Working Conditions
42	Satisfaction Climate					L	S**	Miscellaneous
44	Satisfaction Respect from Community	L**				L		Prestige
45	Satisfaction Person Interest by Principal		S**	L**				Human Relations
48	Satisfaction Fairness of Administration				S			Human Relations
50	Satisfaction Respect from School Admin.					L**		Human Relations
51	Satisfaction Training in Subjects					L**		Education
52	Satisfaction Salary	L**	$\underline{S}$**			L**	S**	Financial
53	Satisfaction Respect from Other Teachers	L**			S	L		Human Relations
61	Teacher Age over 45			L	S			Miscellaneous

*Relationships statistically significant at better than the .05 level. ** Significant at better than .01 level

L = Large district teachers show attrition rates related to variable

S = Small district teachers show attrition rates related to variable

Underlined relationships are in inverse direction from expected, e.g., having a class size of under 30 is associated with high attrition rates.

in Appendix C.

In order to summarize the data, variables were grouped into categories. The categories most closely related to attrition were working conditions and human relations in the school. We list low, high, and anomalous attrition variables. In the first type, the presence of the variable is associated with low attrition for most sex-level-district size groups; in the second, presence is typically associated with high attrition. The presence of an anomalous variable is associated with high and low attrition, respectively, in an equal number of sex-level-district size groups. All relationships are statistically significant at better than the .05 level. Double asterisks (**) indicate significance at the .01 level. Each variable is preceded by its hypothesis number.

a. Low Attrition Variables

1) Working Conditions

(13) Fewer than 6 class periods per day
(7-12 men, large** and small districts)

(19) Satisfaction with number of classes
(7-12 men large districts**)

(8) Spending less than 5 hours per week planning lessons
(7-12 women, small districts)

(20) Satisfaction with number of preparation periods
(7-12 men, small districts)

(29) Satisfaction with superintendent protection of teachers from outside pressures
(7-12 women, large districts)

(30) Satisfaction with school protection of teachers from outside pressures
(7-12 women, large and small districts)

(34) Satisfaction with class size
(7-12, women)

(38) Satisfaction with opportunities for professional growth
(7-12 men, small districts)

2) Human Relations

(23) Satisfaction with the quality of one's fellow teachers
(K-6 women, large districts**; 7-12 men**)

(45) Satisfaction with personal interest by principal
(K-6 women, small districts**; 7-12 women large districts**)

(50) Satisfaction with respect from school administrators
(7-12 men, large districts**)

(53) Satisfaction with respect from other teachers
(K-6 women, large districts**; 7-12 women, small districts; 7-12 men, large districts)

(15) Satisfaction with personal interest by department head
(7-12 women, large districts)

(48) Satisfaction with fairness of administration
(7-12 women, small districts)

3) Financial

(52) Satisfaction with salary (See also high attrition variables).
(K-6 women, large districts**; 7-12 men**)

(33) Satisfaction with fringe benefits
(K-6 women, large districts**; 7-12 men, large districts**)

(12) Salary over $8,000
(7-12 men, large and small** districts)

4) Pupils

(26) Satisfaction with pupils' intellectual quality (See also high attrition variables).
(7-12 women, large districts; 7-12 men, large and small** districts)

(25) Satisfaction with pupils' cultural background
(7-12 men, large and small** districts)

(28) Satisfaction with teachers' prestige among pupils
(7-12 women, small districts)

(36) Satisfaction with pupil discipline
(K-6 women, large districts; 7-12 men, large districts)

5) Education

(51) Satisfaction with the adequacy of training in subjects one teaches
(7-12 men, large districts**)

6) Prestige

(44) Satisfaction with respect from the community
(K-6 women, large districts**; 7-12 men, large districts)

7) Miscellaneous

(42) Satisfaction with the climate
(7-12 men, large and small** districts)

(5) Number of teachers in the school who are teaching in their first district
(K-6 women)

(61) Number of teachers over age 45 in the school
(7-12 women)

b. High Attrition Variables

The presence of these variables among many teachers in a school was related to a high A R.

1) Working Conditions and Education

(6) Having a class size under 30. (See also low attrition variables.)
(K-6 women, large districts**; 7-12 women, large districts; 7-12 men, large districts **)

The average size for special education classes is much lower than that for regular classes, as, indeed, it is legislated to be. Also, we believe that legislation has succeeded in lowering class sizes for disadvantaged pupils. Teachers in large districts (which have special education schools and tend to concentrate disadvantaged pupils in some schools) show an association of small class sizes with high attrition. Women 7-12 teachers in small districts show the inverse association. We believe the result for large districts is misleading, i.e., an artifact of other pupil characteristics related to class size, which have their own effects on teacher attrition. In other words, we believe that the relationship between small classes and AR in large districts would not be found for groups of teachers homogeneous in terms of the type of pupils they teach.

(1) Holding an M.A. (K-6 women, small districts)

(16) Satisfaction with training student teachers
(K-6 women, large districts**)

(10) Under 5 hours of curriculum development work per week
(7-12 men, large districts)

(17) Satisfaction with exciting or dull school
(K-6 women, large districts)

(18) Satisfaction that things are easy to get done
(7-12 men, small districts)

We believe the same phenomenon accounts for the results for variables 1, 10, 16, 17, and 18. We recall that "attrition" does not necessarily mean loss to the teaching profession, merely termination at a given school. These variables arouse an image of dynamic schools (highly educated teachers working on curriculum development and with student teachers in an exciting work situation where teachers' initiative is encouraged) which exercise and develop education leadership. They may experience high attrition because they prepare their teachers to accept positions of educational leadership outside the school. In the long run, this benefits education.

2) Financial

(52) Satisfaction with salary (See also low attrition variables).
(K-6 women, small districts**)

We speculate that this result may take place because small rural districts, unattractive to teachers, raise their salaries in an attempt to compensate for other disadvantages. Teachers may find salary one of the few satisfying elements of their positions in such schools, but not sufficient to retain them. Alternately, the hypothesis advanced for variables 1, 10, 16, 17, and 18 above, may apply, since salary correlates with education.

3) Pupils

(26) Satisfaction with the intellectual quality of pupils. (See also low attrition variables)
(K-6 women, small districts**)

We believe that the leadership development hypothesis may also apply here.

c. Variable That Gave Anomalous Results

(40) Satisfaction with quality of teaching aids (low attrition for women 7-12, in large districts; high attrition for men 7-12, in small districts).

We are unable to explain this anomaly.

Table 92 shows variables which were not found significantly related to AR.

TABLE 92

VARIABLES NOT RELATED* TO SCHOOL ATTRITION RATES

Hypothesis	Variable
2	Received bachelor's degree in California
3	Received bachelor's degree at a public institution
4	Have adequate formal training in subjects which account for at least half of teaching time
7	Spend less than six hours grading papers
9	Spend less than six hours on unpaid extra-curricular activities (e.g., supervising dances)
11	Have term-time employment in addition to teaching
21	Satisfaction with time for preparation during school hours
22	Satisfaction with number of classroom interruptions
24	Satisfaction with variety of subjects taught
27	Satisfaction with school's effect on private life
31	Satisfaction with recognition of accomplishment by supervisors
32	Satisfaction with chance to choose classroom assignments
35	Satisfaction with quality of subjects taught
37	Satisfaction with chance to participate in planning programs and curricula
39	Satisfaction with availability of substitutes when required
41	Satisfaction with availability of teaching materials
43	Satisfaction with tenure investment in the district
46	Satisfaction with friendships with other teachers
49	Satisfaction with professional competence of principal
54	Satisfaction with freedom to teach subjects in own way
55	Unemployment rate of pupils' family heads**
56	Percent of pupils, both of whose parents work**
57	Percent of pupils whose family heads are mothers**
58	Percent of pupils who are white**
59	Predominance of single dwellings in district**
60	Percent of multiple dwellings surrounding school, which are converted single dwellings**
62	Frequency of discipline problems**

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* No significant relationships (at the .05 level) with school attrition ratios (for teachers characterized by these variables) were found for any one of the six teacher groups for whom analyses were carried out.

** Estimated by principals.

VI. NATURAL TRENDS IN SUPPLY AND DEMAND

A. ASSUMPTIONS AND VALIDITY

A model which attempts to forecast the behavior of a system depends on two major assumptions:

1. Past behavior of elements of the system will forecast future behavior.

2. Whenever data on elements of system behavior are unavailable, we can generate indirect evidence about them and then supply estimates that will be valid.

The numbers generated by this model are not claimed to be completely accurate. This is true of any forecasting model. They are presented in the belief that with all their uncertainties they are better than no information, and that they will be used as guides rather than gospel. Because assumptions are important in a model, we shall introduce the model by enumerating them.

Official California statistics on schools consider grades K-6, and seventh and eighth graders in elementary schools, as elementary and grades 9-12 and junior high students as secondary. Many of our data make the break so that K-6 are considered elementary and 7-12 secondary. We found, for example, that the sex distribution of teachers in grades 7 and 8 is much more like that in grades 9-12 than in grades K-6.

Half the TPI's in California responded to our survey. We believe, on the basis of evidence in Table 18, that their statistics are representative of the total.

Attrition data supplied by superintendents included many attritions whose destinations were unknown. We have assumed that half of these, in each level and sex group, were going to other districts in California. We made the same assumption for those women moving because their husbands were being transferred.

Rafferty, op. cit. indicates that "only 4 out of 5 new graduating teachers actually accept employment in California public schools immediately following their graduation." We have used this statistic in our estimates.

We have assumed that the enrollment of those preparing to teach in California schools rose from 1965-1966 to 1966-1967 in the same way as the total California teacher preparatory institution enrollments, indicated on page 20 of Hurd, op. cit. Data in Table 18 substantiate this assumption.

We assumed that the ratio of the number of student teachers for 1965 (as indicated in Rafferty op. cit.) to the education enrollment in 1965 in our sample of 24 replying TPI's is generally valid for all years.

We assumed that for a given year, the ratio of elementary enrollments to secondary enrollments in TPI's, will be the same as the ratio of elementary teacher graduates to secondary teacher graduates. Data in Table 18 and 19 substantiate this assumption.

We assumed that the proportion of graduates of out-of-state TPI's among California teachers who have taught between 0 and 3 years, as of 1966-1967, is valid for the years following.

We assumed that the longevity distribution of our sample is similar to the longevity distribution in the population of certificated California teachers.

B. ATTRITION AND LOSS RATES

Almost all 82 superintendents replying to the Superintendent Survey indicated the total number of teachers terminating in 1964-65 and 1965-66. All of them also indicated the number of teachers employed in these years. Averaging over both years, we derived the total attrition and loss rates for the four categories in Table 94.*

We used estimates based on data from most of the California superintendents returning our survey, as shown in Table 93, to separate attritees into those leaving California teaching (losses) versus those going to other California districts. Table 93 shows a lower bound, best, and upper bound estimates of the percent of attritees consisting of interdistrict turnover, i.e., going from one California district to another. To estimate the lower bound, (row 7) we assumed that only those known to have left for teaching in California (row 2) did so. To estimate the upper bound (row 8), we assumed that all those known to have gone to other teaching positions in California and all those whose husbands had moved and who had left for unknown destinations were in fact interdistrict turnover. The best estimate, in row 6, whose complement is shown in the second row of Table 94, assumed that all those known have gone to other teaching positions in California, and half of those whose husbands moved or whose destinations were unknown, were interdistrict transfers. We weighted the loss percentages in Table 94 within both elementary and secondary, by the proportion of

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* Attrition and loss rates are underestimates, since our sample underrepresented small districts. According to Lindenfeld, op. cit. small districts have higher attrition rates, especially for men.

TABLE 93

ATTRITION AND LOSS DESTINATIONS

	Grade Level			
	K-6		7-12	
	Men	Women	Men	Women
1. Out of California teaching	117	1278	345	752
2. Other teaching in California	68	186	225	99
2a. 2) + 50% of 3)	(114)	(714)	(402)	(378)
2b. 2) + 3)	(160)	(1243)	(579)	(658)
3. Husband moved to unknown	92	1057	354	559
4. 50% of 3)	(46)	(528)	(177)	(279)
5. Total	297	2521	924	1410
6. 2a)/5) estimate of inter-district turnover percent	39%	28%	43%	27%
7. 2)/5) lower bound of inter-district turnover percent	23%	07%	24%	07%
8. 2b)/5) upper bound of inter-district turnover percent	54%	49%	62%	47%

TABLE 94

COMPUTATION OF LOSS RATES, BY LEVEL AND SEX

	Level and Sex			
	K-6 Male	7-12 Female	K-6 Male	7-12 Female
Attrition percentage	8.2	7.4	9.0	12.4
Estimated percent of attritees leaving California teaching	61	72	57	73
Loss percentage (out of California teaching)	5.00	5.33	5.13	9.05

male and female teachers and derived annual loss rate proportions of 5.28% for K-6, and 6.86 for 7-12 teachers. For a sensitivity test, we also used the .083 attrition rate cited by Hurd. Results of the two methods are shown in the first two columns of Table 95.

C. DEMAND

Our projections for requirements owe much both as to method and data to the work of Dr. Blair Hurd, as published in California's Need for Teachers, 1965-1975, op. cit. In Table 95, we show requirements for replacement and growth, based on teacher requirements in Table 66.

D. INPUT

1. California Teacher Preparatory Institutions

The institutions answering the survey indicated their projected teacher education enrollments from 1966 through 1974, broken down, in many cases, by expected elementary and expected secondary enrollment. Under the assumption that the rise in education enrollment from 1965 to 1966 was the same as the rise in total California TPI enrollments, we estimated the teacher education enrollment in our responding colleges for 1965. We then found the ratio of student teachers in 1965-66 (from Rafferty, op. cit.) to the education enrollment in the responding TPI's. We multiplied this by 0.8, under the assumption, described above, mentioned in Rafferty, op. cit. We applied the resulting constant 0.4848 to total projected education enrollments for the responding TPI's from 1966 to 1974, thus estimating California TPI outputs for those years, as shown in Table 96.

In order to assign these outputs to elementary and secondary education, we found the ratio of elementary and secondary education enrollments for each year between 1966 and 1974 for the responding TPI's enrollments, as shown in Table 20.

Table 20 shows that the percent of education students preparing for elementary teaching will remain about 45% from 1966 to 1974. This proportion is considerably less than what it has been in the last five years, as shown in Table 18. Our sample data in Table 18 indicate elementary enrollment, as a proportion of total teacher education enrollment, decreasing from 66.7% in 1961-62 to 50.7% in 1965-1966. Data in Table 18 indicate a similar decline for all California institutions from 60% to 50% from 1960-61 through 1964-65.

We then applied the relevant ratios from Table 20 to total output and estimated elementary and secondary inputs for each year to

TABLE 95

ESTIMATED ANNUAL TEACHER REQUIREMENTS

Elementary K-6 Year	Replacements Required R_1*	Replacements Required R_2**	Growth Requirements G	Total Annual Input Requirements T_1*	Total Annual Input Requirements T_2**
1960-1961	3,724	5,831	3,154	6,900	9,000
1961-1962	3,891	6,093	3,467	7,400	9,500
1962-1963	4,075	6,381	4,011	8,100	10,400
1963-1964	4,287	6,714	3,812	8,100	10,500
1964-1965	4,489	7,030	4,280	8,800	11,300
1965-1966	4,716	7,386	3,932	8,600	11,300
1966-1967	4,924	7,712	4,951	9,900	12,700
1967-1968	5,187	8,123	4,379	9,600	12,500
1968-1969	5,419	8,486	2,849	8,300	11,300
1969-1970	5,570	8,723	4,079	9,600	12,800
1970-1971	5,786	9,061	2,018	7,800	11,100
1971-1972	5,893	9,229	1,863	7,800	11,100
1972-1973	5,992	9,383	2,294	8,300	11,700
1973-1974	6,113	9,574	2,415	8,500	12,000
1974-1975	6,241	9,774	2,549	8,800	12,300

* R_1 and T_1 assume loss rate = .053

** R_2 and T_2 assume loss rate = .083

TABLE 95 (Continued)

Secondary 9-12 Year	Replacements Required R_1*	Replacements Required R_2**	Growth Requirements G	Total Annual Input Requirements T_1*	Total Annual Input Requirements T_2**
1960-1961	2,838	3,414	2,958	5,800	6,400
1961-1962	3,042	3,659	2,555	5,600	6,200
1962-1963	3,218	3,871	3,896	7,100	7,800
1963-1964	3,487	4,195	3,887	7,400	8,100
1964-1965	3,755	4,517	4,086	7,800	8,600
1965-1966	4,037	4,856	2,770	6,800	7,600
1966-1967	4,228	5,086	3,526	7,800	8,600
1967-1968	4,472	5,379	2,923	7,400	8,300
1968-1969	4,673	5,622	3,330	8,000	9,000
1969-1970	4,903	5,898	2,689	7,600	8,600
1970-1971	5,089	6,121	3,009	8,100	9,100
1971-1972	5,296	6,371	2,918	8,200	9,300
1972-1973	5,498	6,613	2,299	7,800	8,900
1973-1974	5,656	6,804	2,105	7,800	8,900
1974-1975	5,802	6,979	2,153	8,000	9,100

* R_1 and T_1 assume loss rate = .069

** R_2 and T_2 assume loss rate = .083

TABLE 96

ESTIMATING CALIFORNIA TPI'S ANNUAL NUMBER OF CREDENTIALLED GRADUATES ENTERING TEACHING IN CALIFORNIA SCHOOLS

	California TPI Sample Projected Education Enrollment	California TPI Total Output to California Districts
1966	19,293	9,400
1967	21,222	10,300
1968	23,152	11,200
1969	25,081	12,200
1970	27,010	13,100
1971	28,940	14,000
1972	30,869	15,000
1973	32,798	15,900

California schools as shown in Table 97.

To test the effect of the change in elementary/secondary ratio of TPI graduates, we modelled what would happen if the ratio were to revert to the pre-1963 level. The first and third columns of Table 98 show the results.

2. Out-of-State Teacher Preparing Institutions

Thirty-one percent of the teachers with between 0 and 3 years of teaching experience came from out-of-state TPI's. Thirty-seven percent of all K-6 teachers, and 42% of all 7-12 teachers came from out-of-state TPI's. We therefore estimated that 25% of new K-6 teachers and 36% of new 7-12 teachers, can be expected to come from out-of-state TPI's. We applied ratios based on these estimates to the inputs from California TPI's, to estimate the number of teachers from out-of-state institutions entering California teaching between 1967 and 1974, shown in Table 97. Table 98 shows the same, under the assumption specified.

3. Returners

We tried to estimate returners indirectly. It was clear that the input of teachers in any given year consists of those entering teaching for the first time that year ("new inputs") and returners. The teacher survey data indicate the number of new elementary and secondary teachers for years between 1900 and 1966. Using 1966 data in Table 66, we estimated a ratio of all elementary (or secondary) teachers in California to our elementary (or secondary) sample. These constants were

TABLE 97

ESTIMATES OF TPI INPUTS

Year	Elementary		Secondary	
	California	Out-of-State	California	Out-of-State
1967-68	4,100	1,360	5,300	2,970
1968-69	4,500	1,500	5,800	3,250
1969-70	4,900	1,630	6,300	3,530
1970-71	5,300	1,760	6,900	3,870
1971-72	5,700	1,900	7,400	4,150
1972-73	6,200	2,060	7,800	4,380
1973-74	6,600	2,200	8,400	4,710
1974-75	7,000	2,330	8,900	4,990

TABLE 98

ESTIMATES OF TPI INPUTS, ASSUMING 60% OF CALIFORNIA TPI EDUCATION GRADUATES ENTER ELEMENTARY EDUCATION

Year	Elementary		Secondary	
	California	Out-of-State	California	Out-of-State
1967-68	5,600	1,900	3,800	2,100
1968-69	6,200	2,100	4,100	2,300
1969-70	6,700	2,200	4,500	2,500
1970-71	7,300	2,400	4,900	2,700
1971-72	7,900	2,600	5,200	2,900
1972-73	8,400	2,800	5,600	3,100
1973-74	9,000	3,000	6,000	3,400
1974-75	9,500	3,200	6,400	3,600

applied to the number of elementary and secondary teachers beginning teaching in California between 1962-1963 and 1966-1967, in our sample.

This estimated a total number of teachers, entering in those years, still in California teaching. All 1966-67 entrants could be assumed still to be teaching in California during September and October 1966, when our surveys were answered. However, some 1965-1966 entrants, and those from preceding years, would have left teaching before September-October 1966. In order to estimate the original input numbers, we applied loss factors related to elementary and secondary schools respectively. We tried two sets: those based on Superintendent Survey data, and those cited in the Hurd study, _op. cit_. We expected that subtracting the new teachers from the total would indicate returners for each year, which would estimate the number of returners who can be expected in future years.

Unfortunately, the data were intractable to this kind of analysis. Both sets of loss rates showed an extremely irregular pattern of estimated returners. The first set gave significant _negative_ numbers of elementary returners; that is, inputs of new teachers for a given year considerably exceeded the total number of inputs estimated. Using the Hurd attrition ratios gave a small negative number of elementary returners for 1962 and an extremely variegated distribution of returners over 1963 to 1966. For secondary teachers, the method gave fairly reasonable numbers of returners for the years 1962 through 1966. The Superintendent Survey loss ratios indicated about 2,000 returners a year; the Hurd ratios indicated about 2750.

There seems to be only one explanation for the failure of this analysis to show reasonable results for elementary teachers: _the loss rate for elementary teachers varies significantly from year to year_. A variant attrition rate over the years is common in a number of occupations and professions. For example, loss rates for most occupations in the Department of Defense and the Navy varied between 1954 and 1964 by factors of two between the highest and the lowest reenlistment rate, and for some categories by a factor of five.*

We believe that it is extremely unlikely that one loss rate will apply to all years up to 1974. Because of the disappointing results of this analysis, we do not try to forecast the number of returners. There is also evidence, from the 1966 NEA publication, _Teacher Supply and Demand_, _op cit_., and from Lindenfeld, op. cit., that the number of returners varies markedly from year to year, precisely _as a response to teacher shortages and sufficiencies_. In Chapter VII, we shall discuss and recommend ways to increase the input of returners.

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* Singer, A., _et al._, _Multivariate Study of Enlisted Retention_, Institute of Naval Studies, Cambridge, Mass.

We doubt the accuracy of forecasting elementary loss rates and the supply-demand configuration resulting from them. We believe then, that the analysis of Chapter V, Section D, showing which characteristics of school districts are related to low attrition, is more important than the forecast attempted in this chapter.

E. RECONCILIATION OF REQUIREMENTS AND ESTIMATED SUPPLY SOURCES

Table 99 shows the number of teachers lost, in elementary and secondary levels, between 1967 and 1975, under two sets of loss assumptions. It shows the annual inputs expected from both California and out-of-state TPI's. Finally it shows the underage or overage in elementary and secondary teachers, under both sets of assumptions.

By either loss expectation, it is clear that there will be a major shortage of elementary teachers in the coming years. The shortage is especially critical in the next three academic years. Even with the known faults of this forecasting analysis, it is evident that a shortage looms ahead. The only way in which the shortage can be avoided, it seems, is if the number of returners is significantly increased, or if the number of teachers prepared by out-of-state TPI's is significantly increased. Even with loss rate down to about 5%,* there is still a significant shortage.

The picture for secondary teachers is considerably brighter. By one (probably overoptimistic) set of loss rate assumptions, we shall have an overage in all years in the time period. By the other more conservative estimate of attrition, we shall have a match of supply and demand in the first year of the time period, and overages thereafter.

Two notes of caution intrude at this point, related to the heterogeneity in California teaching noted above. First, secondary sufficiencies or overages may exist for California as a whole, but may obscure real shortages in some locations. The favorable-appearing forecast for California should not distract attention from these real geographically-related shortages and difficulties in hiring qualified secondary teachers. Second, real subject matter shortages, especially in mathematics and physics, may continue to exist under the umbrella of overall sufficiencies. No overage of English teachers will compensate for a vacant physics teacher's post.

Our secondary projections are subject to a proviso: that recruitment of secondary teachers prepared out-of-state suffers no obstacle. One such obstacle, the escalation of the secondary partial fulfillment credential to require six post-graduate units and fourteen units of work in a major field of upper division or graduate level was

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* An underestimate of the present rate, as indicated above.

TABLE 99

RECONCILIATION OF TEACHER REQUIREMENTS AND SUPPLY (IN THOUSANDS) FROM SOME SOURCES*

	Annual Input Requirements		Annual TPI (California and Out-of-State) Inputs	Annual Underage or Overage	
Elementary	Loss Rate = .053	Loss Rate = .083		Loss Rate = .053	Loss Rate = .083
Year					
1967-68	9.6	12.5	5.5	-4.1	-7.0
1968-69	8.3	11.3	6.0	-2.3	-5.3
1969-70	9.6	12.8	6.5	-3.1	-6.3
1970-71	7.8	11.1	7.1	-0.7	-4.0
1971-72	7.8	11.1	7.6	-0.2	-3.5
1972-73	8.3	11.7	8.3	0	-3.4
1973-74	8.5	12.0	8.8	+0.3	-3.2
1974-75	8.8	12.3	9.3	+0.5	-3.0
High School	Loss Rate = .069	Loss Rate = .083		Loss Rate = .069	Loss Rate .083
Year					
1967-68	7.4	8.3	8.3	+0.9	0
1968-69	8.0	9.0	9.0	+1.0	0
1969-70	7.6	8.6	9.8	+2.2	+1.2
1970-71	8.1	9.1	10.8	+2.7	+1.7
1971-72	8.2	9.3	11.5	+3.3	+2.2
1972-73	7.8	8.9	12.2	+4.4	+3.3
1973-74	7.8	8.9	13.1	+5.3	+4.2
1974-75	8.0	9.1	13.9	+5.9	+4.8

* Excludes those returning to teaching from homemaking or other occupations.

TABLE 100

RECONCILIATION OF TEACHER REQUIREMENTS AND SUPPLY (IN THOUSANDS) FROM SOME SOURCES* ASSUMING 60% OF CALIFORNIA TPI EDUCATION GRADUATES ENTER ELEMENTARY EDUCATION

			Annual TPI (California and Out-of-State) Inputs	Annual Underage or Overage	
Elementary Year	Loss Rate = .053	Loss Rate = .083		Loss Rate = .053	Loss Rate = .083
1967-68	9.6	12.5	7.5	-2.1	-5.0
1968-69	8.3	11.3	8.3	0	-3.0
1969-70	9.6	12.8	8.9	-0.7	-3.9
1970-71	7.8	11.1	9.7	+1.9	-1.4
1971-72	7.8	11.1	10.5	+2.7	-0.6
1972-73	8.3	11.7	11.2	+2.9	-0.5
1973-74	8.5	12.0	12.0	+3.5	0
1974-75	8.8	12.3	12.7	+3.9	+0.4
High School Year	Loss Rate = .069	Loss Rate = .083		Loss Rate = .069	Loss Rate = .083
1967-68	7.4	8.3	5.9	-1.5	-2.4
1968-69	8.0	9.0	6.4	-1.6	-2.6
1969-70	7.6	8.6	7.0	-0.6	-1.6
1970-71	8.1	9.1	7.6	-0.5	-1.5
1971-72	8.2	9.3	8.1	-0.1	-1.2
1972-73	7.8	8.9	8.7	+0.9	-0.2
1973-74	7.8	8.9	9.4	+1.6	+0.5
1974-75	8.0	9.1	10.1	+2.1	+1.0

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* Excludes those returning to teaching from homemaking or other occupations.

instituted in 1966-67. It is expected to escalate further to 12 postgraduate units in 1967-68. Since the large majority of new secondary teachers educated out-of-state receive a credential in their own state without any requirement for graduate work, even the first escalation has _now_ begun to reduce the supply of out-of-state prepared mathematics and science teachers to Los Angeles, probably the only district in the state to do substantial recruiting to fill mid-year demand.* If allowed to stand, it will affect all districts' secondary recruiting from out-of-state.

Much thought should be given to ways in which the expected overage of secondary teachers can be used to help ameliorate the elementary shortage. Some of the following steps should be considered:

> By counseling, encourage students interested in education in the California TPI's to enter elementary teaching.
>
> By changing credential requirements, encourage students in TPI's to go into elementary teaching.
>
> By publicizing the true salary structure, encourage both future teachers and present teachers to go into elementary education.
>
> In recruiting teachers from out of state, concentrate on elementary teachers where possible.

Table 100 shows, when compared with Table 99, that a major portion of the elementary annual input underages would be removed, if the elementary/secondary ratio of California TPI graduates were to revert to pre-1963 levels. However, this would produce definite secondary shortages. _Some_ increase in the elementary proportion, however, would help solve the elementary shortage without reducing secondary supply below requirements.

Much attention should also be paid to present elementary teachers. We can see in Table 99 that the difference between a loss rate of 5.3% and one of 8.3% implies a difference of as much as 3,200 in the 1969 shortage. The findings of Chapter V Section D should be applied, to maximize the frequency of school characteristics empirically related to, and therefore probably conducive to, low attrition rates for elementary teachers.

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* Memorandum, Mr. Barclay to Mr. Brown, Los Angeles Schools, December 2, 1966, subj: Recruitment Potential for Qualified Math and Science Teachers.

VII. COLLATION AND TRANSMISSION OF INFORMATION

A. INTRODUCTION

Placing qualified teachers into teacher vacancies in California is a complicated process. All segments of this process have one common characteristic: information needs to be transmitted from various people and organizations to other people and other organizations. The accurate, speedy transmission of relevant information is critical. This chapter will deal with information and decisions as they are now being made and suggest strengthening of aspects of the system which, by improving gathering and transmission of information, would help improve the matching of teacher supply and demand.

B. PRESENT TEACHER RECRUITMENT MECHANISMS

The superintendent's questionnaire asked about mechanisms through which teachers are recruited. Data were tabulated to indicate sources which supply most teachers in each district. (Results in detail are in Chapter III.) As one would expect, college placement officers and campus recruiting were the most frequently used recruiting devices for beginning teachers. Unsolicited applications, personal references (from the district's own staff and community) and county school placement officers were also frequently used. The California Teachers Association Placement Office and private employment agencies were very infrequently used.

For experienced teachers, unsolicited applications are the most frequent way in which information is transmitted to a district that a teacher is available. Next come personal references, college placement offices, and county school placement offices. Campus recruiting comes next; the CTA placement office, private employment agencies and the professional meetings are hardly ever used.

No school district indicated that public advertising, professional journal advertising, or public employment agencies were among the primary recruiting sources for teachers.

C. PRESENT TEACHER EMPLOYMENT MECHANISM

1. School District Estimation of Needs

School districts now estimate their annual need, mostly, we believe, by past histories of attrition and estimates of retirement for the coming year. School boards, ever aware of fiscal considerations, permit hiring at the beginning of the year only of the exact number of teachers believed necessary. Some state regulations make the same stipulation. No allowance is made for unexpected departures during the year.

2. Annual Hiring Cycle

School districts begin hiring for an academic year during the previous year, many as early as December or January of that year, especially for out-of-state recruitment. Local hiring is done approximately in March or April. By this time, school districts have a better picture of their expectancy in the next academic year. They have made, and in some cases, have had accepted, offers from out-of-state by that time.

3. Local vs. Out-of-State Hiring

The smaller school districts tend to recruit at nearby California TPI's. This is understandable. Larger school districts, like Los Angeles Unified, may interview at as many as 200 out-of-state TPI's, recruiting recent graduates or those about to graduate.

Hiring teachers from out-of-state is made more difficult because special permission must be received from the State Board of Education to hire teachers under provisional credentials. This increases difficulties for the school district in hiring adequate numbers of teachers.

D. STRENGTHENING THE SCHOOL DISTRICT PROFESSIONAL PERSONNEL FUNCTION

1. More Aggressive Recruiting

It is recommended that school districts undertake more aggressive recruiting of experienced teachers for their shortage areas. Funds ought to be made available for recruiting outside the vicinity. Advertising in national publications, such as the New York Times, has been used, and ought to increase in use, for hiring of teachers.

School districts should be enabled to seek out teacher-prepared people in the vicinity who are not currently teaching. Mechanisms for doing so will be discussed below.

2. Teacher Pairing

The Women's Educational Industrial Union (264 Boylston Street, Boston, Massachusetts) has a remarkably successful partnership teaching program under the direction of Mrs. Nona Porter. There are now 50 participating teachers. Two teachers share a classroom, one teaching in the morning and one in the afternoon. These are all teacher-educated women, all of them married and not wishing to devote full time to teaching. Many had teaching experience prior to marriage. They are placed in about a dozen communities in the greater Boston area. It should be noted that the teacher-partnership program was instituted at a time when there was not a shortage, as a means of placing highly-qualified women in the schools with a time commitment agreeable to them. Some hundreds of women have applied for the program. Superintendents and principals are enthusiastic about it. The program has blossomed even more in 1966-67 when a shortage began to affect the greater Boston area. Similar programs have been reported as successful in Burbank and Davis, California.

Increased use of programs like this would do much to alleviate elementary and other teaching shortages in California, by using educated talent in a way commensurate with its own desires. Some administrative and legal obstacles to the use of partnership teaching exist in California. Their applicability under present circumstances should be examined. If it seems appropriate, they should be amended.

3. Professional Personnel Training

Providing formal training in personnel administration for those responsible for personnel functions would add to the ineffectiveness. Some of the known techniques in personnel administration can be learned "on the job"; many others would be better learned through formal training.

E. STRENGTHENING THE DEPARTMENT OF EDUCATION PERSONNEL INFORMATION AND TRANSMISSION FUNCTION

1. Responsibility Remains in Districts

At present, each district is responsible for maintaining an adequate supply of qualified teachers, under the general guidelines set by the State Board of Education and monitored by the State Department of Education (SDE). The strengthening suggested below is not intended to change this distribution of responsibility; rather, it is intended to help a central agency, the SDE, gather and provide information to school districts to help them fulfill their functions.

2. Magnitude of the Problem

The SDE is responsible for keeping records and certifying the credentials of 175,000 teachers in California. The department now has considerable personnel engaged in this task. We are suggesting additional functions for the department which would necessitate additional personnel. It is believed that the size of the teacher population in California and the number of functions which the State Department needs to perform in order to serve the districts creatively necessitate this expansion of responsibility.

Presently, the Bureau of Teacher Education and Certification of the SDE publishes annually a forecast of teacher supply and demand for California, sends lists of vacancies reported by the districts to interested parties, and primarily applies itself to monitoring and maintaining records of credentialling.

3. Maintaining Records of Teacher-Certified California TPI Graduates

It is recommended that the SDE receive from the TPI's notifications, by individual student, of those students receiving teacher certification. This is done now, although not in a form which would allow any more than gross counts of the number of certificates issued each year. It is recommended that records on new credentials to California TPI graduates be kept in such a way that the SDE may know what happens, after certification, to each individual student. They should be able to ascertain where each student accepts a position, and whether this is a teaching position.

4. Inform Local School Districts

Each year, the SDE can inform school districts of the number of credentialled new graduates from California TPI's and the proportion going into California teaching. This will help the districts to estimate how much of their hiring needs to be done out-of-state.

5. Maintaining Records on Present Teachers

It is recommended that when a teacher begins with a district, the district forward the following information on him or her to the SDE:

Name

Social Security Number

Sex

Age

Type of Credential

District

Year Beginning

Such information is relatively easily put into magnetic tape form,* analyzable by computer, since the districts are already identified by unique numerical coding.

6. Attrition Data

It is recommended that the State Department of Education use these data for annual analyses of trends in California education. If districts also indicate when teachers leave, the State Department of Education will be able to maintain attrition ratios, by type of district, for men and women, for elementary and secondary levels, and by subject matter.

The State of Washington keeps such records.** They indicate how many certificates were issued annually between 1950 and the present to Washington teacher education graduates and how many are still teaching. They also indicate how many teachers, by sex and level, began teaching in each year since 1951 and how many are still teaching in the state.

Such data, when analyzed, will show weak points in attrition and trends which present important challenges or show important improvements. They can also show a district where it stands on teacher attrition, compared to others of its kind.

7. Returner Data

These analyses will also show how many returned to teaching each year, after absences of given length. They will also show how many potential returners there are.

8. Maintain Records of Losses

It is recommended that the State Department of Education maintain records of people who have left teaching in California, ascertaining on a periodic basis (perhaps annually or biennially) the addresses of those in California.

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* Two recent reports, one by Aerojet General and the other by Professor Werner Z. Hirsch of the University of California have discussed a computerized registry of California teachers. The former is a feasibility study for the SDE, which examined the technical aspects in detail. The latter recommends a registry as a step toward solution of the teacher shortage.

** Bruno, L., Teachers Supply and Demand in Washington State, 1966, Superintendent of Public Instruction, Olympia, Washington.

9. Inform Local School Districts of Possible Returners

The addresses of losses should be made available to nearby school districts who might wish to ask them whether they desire to return to teaching. Districts would know the size of the local reservoir of potential returners.

10. Maintaining Records of Retirement Trends

Data on the age distribution of teachers will enable the SDE to ascertain trends in retirement. There is evidence in our study that retirement frequency is not the same every year. A significant rise in future number of retirements, if the districts are informed about it, will enable them to meet the challenge by increasing their recruiting of TPI graduates or potential returners.

11. Identify and Communicate with Education Faculty and Teacher Education Specialists in Subject Matter Departments

Our interviews at the TPI's ascertained that interest in and knowledge of education requirements, both qualitative and quantitative is high in the education departments, but by no means so high among subject matter faculty, although in each department there seems to be an acknowledged specialist in teacher education. It is recommended that these specialists be formally identified and that the SDE communicate regularly with them, as well as with education faculty, about shortages and overages.

F. STRENGTHENING CAREER COUNSELING AND INFORMATION GATHERING IN THE TPI'S

1. Obligation to the Student

The TPI's are obligated to help the student find proper placement after he graduates, in accordance with his own needs and desires, but making due allowances for where his skills are employable.

2. Encourage Undecided into Shortage Areas

It is not by any means envisioned that college counselors should induce students to make career choices inimical to them. We have ascertained, however, that many students are truly undecided about their future career. The advising and counseling systems at the TPI's should encourage these students to go into teaching, specifically into shortage areas, subject-matter, teaching level, and geographical. They will be better able to do this if the SDE informs them recurrently and systematically of these areas.

3. Statistics

The TPI's should continue to provide the State Department of Education with information about education enrollment. In addition, they should provide statistics on the number of students no longer enrolled but taking their fifth year to achieve certification.

G. HELPING OUT-OF-STATE RECRUITMENT

We have determined that out-of-state recruitment has played, and will continue to play, a large part in teacher supply to California school districts. Some of this comes about through recruiting out-of-state, some through women moving to California with their husbands. It is recommended that the following existent practices continue in full force:

1. Continue Partial Fulfillment Credentials

Out-of-state teacher-educated people should not be penalized because of where they prepared. The state should continue the practice of issuing credentials in partial fulfillment and allowing teachers with them to catch up with their California contemporaries in satisfying the full credential requirements after they have begun teaching.

2. Continue Practice of Salary Differentials for Years of Relevant Preparation

Salary differentials for differential education should continue, in order to coordinate with the issuance of partial fulfillment credentials. Salary scales provide an incentive in addition to the statutory time limitations for teachers to continue their education and (for those on partial fulfillment) to achieve full certification. If California continues to believe that 1961 Certification Act requirements are beneficial for elementary teachers, and continues to need significant numbers of teachers prepared out-of-state, the incentive approach will help to achieve the desired aim, in the context of the numerical constraints of California TPI teacher graduate numbers.

3. Continue California's Favorable Salary Position

The National Education Association,* reports that in 1965-66 California estimated average salaries were the highest in the country for elementary ($7,750) and secondary ($8,600) teachers. California's leading position will continue to allow it to attract the most qualified out-of-state teachers, if its allocation of resources for teachers continues.

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* National Education Association, Research Report 1966-RI, Rankings of the States, 1966, Washington, D.C., January 1966.

TEACHER SUPPLY AND DEMAND
IN CALIFORNIA, 1965-1975
APPENDICES

FEBRUARY 1967
C-68494

Prepared for the Teacher Supply
and Demand Committee, Set Up by
the California State Board of
Education

Arthur D. Little, Inc.

APPENDIX A

REPRESENTATIVENESS OF SAMPLING

Page

1. Teacher Survey A-1
2. Superintendent Survey A-3
3. Principal Surveys A-7
4. Teacher Preparing Institutions Surveys A-7

LIST OF TABLES

A.1 Comparison of Sample and Estimated Population Salary Distributions A-2

A.2 95 Percent Confidence Limits for Teacher Survey Sample Statistics and Sample Sizes A-3

A.3 Elementary School District Sample by Stratification Level A-4

A.4 High School District Sample by Stratification Level A-5

A.5 Unified School District Sample by Stratification Level A-5

A.6 Returned Questionnaires from Teacher Preparatory Institutions A-8

1. Teacher Survey

Eight thousand teacher surveys were sent out to 142 districts chosen by a random stratified procedure, more fully described below in section 2. Each superintendent sent to each school in his district surveys for half its teachers. Principals were instructed to distribute them to every other teacher in an alphabetical listing. Teachers who returned surveys were found similar to the population of California teachers in two characteristics, percent with no college degrees, and pay distribution.

Table 60 in the text shows that 0.99% of the elementary teachers in our sample indicated that they had less than a bachelor's degree; we believe that many of the 0.83% who did not answer the question also did not have this degree. These percentages accord closely with the reported 1.8% of all California teachers who do not have a bachelor's degree.*

Table A.1 shows the actual salary distribution of our sample and an estimated distribution for the population, both as of 1966-67. As discussed on p. 135 of the text, Magnuson and Tashnovian's definition of elementary and secondary schools differs slightly from the K-6 vs. 7-12 differentiation. We note that the second and third columns of the Elementary and Total sections of Table A.1 are quite similar, with three percent the greatest difference in two analogous entries in the same row. In the Secondary section, the greatest such difference is five percent. Considering the uncertainties and approximations involved, our sample's salary distribution is remarkably like that of the population.

Accepting this evidence that our sample corresponds to the population in at least two important respects, what can we say about the generalizability of the percents of our sample who hold various characteristics? In other words, if our data indicate that five percent of our _sample_ said that the high socio-economic level of the community influenced them to take their first teaching position, what percent of the _population_ would be likely to say the same? Statisticians have determined that the _standard error of estimate_ of a _sample_ statistic, the number of percentage points, plus or minus, that it probably lies from the _population_ parameter, depends upon the number of people in the sample and the magnitude of the sample statistic itself.**

Our first analyses were carried out with a sample of 4874 teachers. Later analyses included questionnaires received later, for a total sample size of 5194. The largest standard error occurs when a

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* National Education Association, _Teacher Supply and Demand in Public Schools,_ 1966, _op. cit._

** With samples of this size, the standard error of estimate is almost independent of the size of the population.

TABLE A.1

COMPARISON OF SAMPLE AND ESTIMATED POPULATION SALARY DISTRIBUTIONS

Teacher Salaries	Time * Adjusted Salaries	Elementary (K-6)			Secondary (7-12)			Total Elementary and Secondary		
		1964-65** %	Estimated 1966-67 %	Survey 1966-67 %	1964-65 %	Estimated 1966-67 %	Survey 1966-67 %	1964-65 %	Estimated 1966-67 %	Survey 1966-67 %
Less than $6,050	Less than $5,599	24.52	12.18	9.17	11.28	4.42	3.98	19.27	9.10	6.63
$6,050-6,949	$5,600-6,499	22.39	23.73	21.87	17.27	15.51	13.24	20.36	20.47	17.67
$6,950-7,999	$6,500-7,399	21.37	20.90	21.03	19.97	17.18	16.66	20.81	19.43	18.92
$8,000-9,049	$7,400-8,299	16.17	16.64	18.73	18.45	16.68	17.44	17.07	16.66	18.03
$9,050-9,949	$8,300-9,199	8.77	12.62	9.64	13.88	15.36	10.86	10.80	13.70	10.24
$9,950-10,999	$9,200-10,099	5.93	8.28	10.28	14.92	14.41	17.78	9.50	10.71	13.83
$11,000-12,499	$10,100-11,599	0.84	5.62	7.18	4.15	15.81	16.83	2.15	9.66	11.76
$12,000 or more	$11,600 or more	0.01	0.03	0.08	0.08	0.63	1.56	0.04	0.27	0.78
Other and No Response				2.02			1.64			2.15
Total		88,982	97,865	2,520	58,512	64,808	2,311	147,494	162,673	4,874

---

* Source: - The Record. "An Estimated Average Teacher Salary Increase of 4.5% Reported," Adjustment factor for two years' salary increase was taken as 1/1.09. For example, salary of $5,599 in 1964-65 was taken as equivalent of of $6,050 in 1966-67. Because of categories in Magnuson and Tashnovian, adjusted categories were the closest that could be found to those indicated by the adjustment factor of .918.

** Source: Magnuson, Henry W., and Tashnovian, Peter J., Salaries of Certificated Employees in California Public Schools, California State Department of Education, Sacramento, 1965.

sample statistic is 50%. We also show below the standard error for a sample statistic of 5%.

TABLE A.2

95 PERCENT CONFIDENCE LIMITS FOR TEACHER SURVEY SAMPLE STATISTICS AND SAMPLE SIZES

Sample Percent	Sample Size N = 4874	 N = 5194
50%	1.43%	1.39%
05%	0.20%	0.19%

Table A.2 shows, for example, that if 50% of our sample of 4874 evidence a characteristic, we can be confident that 95% of the time, between 48.57% and 51.43% of the population of California teachers will show the same characteristic. We also see that the standard error is much smaller, plus or minus 0.20%, when the sample statistic is 5%, and that using the full sample of 5194 teachers, instead of the sample of 4874, does little to reduce the standard error of estimate. In conclusion, we can be confident that statements made about our sample are applicable, with a standard error that is, practically speaking, negligible, to the population of California teachers. Statements made about some subsample, such as elementary teachers, are subject to higher standard errors of estimate.

2. Superintendent Survey

Tables A.3, A.4, and A.5 show how the districts which provided the teacher, superintendent, and principal survey respondents were chosen. The basic data for the random stratified selection are found in Average Daily Attendance and Selected Financial Statistics of California School Districts, 1964-65,* and Directory of Administrative and Supervisory Personnel of California Public Schools, 1966.**

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* Bureau of Education Research, California State Department of Education, Sacramento, 1966.

** Bureau of Education Research, California State Department of Education, Sacramento, 1966.

TABLE A.3

ELEMENTARY SCHOOL DISTRICT SAMPLE BY STRATIFICATION LEVEL

Average Daily Attendance	Elementary Study	Grade Span	No. of Districts in Sample	Interval Total ADA	Sample Total ADA	No. of Districts Supt. Returned	Supt. Returned Total ADA
5,000 and over	1	K-6,K-8	6	635,719	64,871	5	52,949
3,000 - 4,999	2	K-6,K-8	6	223,697	22,326	5	18,735
2,000 - 2,999	3	K-6,K-8	5	132,439	12,579	5	12,579
1,500 - 1,999	4	K-6,K-8	4	68,584	6,650	2	3,491
1,000 - 1,499	5	K-6,K-8	6	77,558	7,373	2	2,843
800 - 999	6	K-6,K-8	4	37,931	3,588	3	2,696
600 - 799	7	K-6,K-8	6	35,615	4,213	5	3,542
500 - 599	8	K-6,K-8	3	16,954	1,610	2	1,039
400 - 499	9	K-6,K-8	5	21,035	2,215	3	1,364
350 - 399	10	K-6,K-8	3	12,022	1,117	0	0
300 - 349	11	K-6,K-8,1-8	5	14,166	1,638	2	679
250 - 299	12	K-6,K-8,1-8	4	11,271	1,080	3	820
200 - 249	13	K-6,K-8, 1-8,1-6	5	11,050	1,124	4	877
175 - 199	14	K-6,K-8, 1-6,1-8	2	4,728	384	1	194
150 - 174	15	K-6,K-8,1-8	3	4,507	490	2	317
149 and under	16		39	25,742	2,274	9	---
Total			106	1,333,018	133,532	53	102,125

TABLE A.4

HIGH SCHOOL DISTRICT SAMPLE BY STRATIFICATION LEVEL

Average Daily Attendance	High School Study	Grade Span	No. of Districts in Sample	Interval Total ADA	Sample Total ADA	No. of Districts Supt. Returned	Supt. Returned Total ADA
3,000 and over	1	7-12,9-12	6	440,243	43,753	5	40,552
1,000 - 2,999	2	7-12,9-12 9-14	6	97,707	10,235	6	9,064
600 - 999	3	9-12	2	18,163	1,784	1	990
400 - 599	4	9-12	2	11,966	1,102	1	517
200 - 399	5	7-12,9-12	2	6,199	537	1	294
Under 199	6	9-12	1	1,860	198	1	198
Total			19	576,138	57,609	15	51,618

TABLE A.5

UNIFIED SCHOOL DISTRICT SAMPLE BY STRATIFICATION LEVEL

Average Daily Attendance	Unified Study	Grade Span	No. of Districts in Sample	Interval Total ADA	Sample Total ADA	No. of Districts Supt. Returned	Supt. Returned Total ADA
1,500 and over[a]	1	K-12[b]	11	1,548,165[b]	153,845	8	104,799
1,499 and under	2	K-12,1-12	5	34,430	3,162	5	3,162
Sub Total[a]			16	1,582,595[b]	157,007	13	107,961
Los Angeles	1	K-12	1	617,017	62,304	1	617,017
Total			17	2,199,612[b]	219,311	14	724,978

---

[a] Less Los Angeles

[b] Excludes estimated 42,549 in Junior College enrollment.

The former lists, for example all elementary school districts with average daily attendance (ADA) of 5,000 or more pupils in Elementary Study (E.S.) 1. Every tenth district in E.S-1, 6 districts, was included in our sample. These six districts contain 64,871 pupils out of the 635,719 in that stratum. Table A.3 shows a similar procedure for E.S.-2 through -15. Unfortunately the first of the two publications cited above does not list elementary districts with less than 150 ADA. The second publication was searched to compile a list of these, and every tenth one included in the sample.

The next-to-last column of Table A.3, compared to the fourth, shows a fairly constant return ratio of Superintendent Surveys (not Teacher or Principal Surveys) of about 67%, for E.S.-1 through -15. The ratio drops markedly to 23%, for the elementary districts with ADA less than 150. Thus, our elementary sample of Superintendents clearly under-represents the very smallest districts.*

The under-representation by very small districts does not, of course seriously diminish our returned sample size (in terms of ADA). Even if all the very small districts had returned their Superintendent Surveys, it would have increased the ADA of Superintendents accounted for by only 2274 about 102,125. However, since, as indicated in Lindenfeld, op. cit., the smaller districts have higher attrition, the biased returns probably led to a slight underestimate of the elementary teacher attrition rate. The underestimate is judged to be slight, because of the comparatively small number of teachers in this stratum, compared to the other elementary strata. The factors involved can be judged from the aforementioned 2274/102,125 ratio.

Random stratified sample selection of high school districts was done in the same manner as for elementary districts. Table A.4 shows a return ratio of Superintendent Surveys of better than 75%, again somewhat oversampling the larger districts, since we received returns for Superintendents who accounted for 90% of the sample's ADA.

Table A.5 shows sampling and returns for unified districts. Since Los Angeles accounts for such a large proportion of the state's ADA, we treated it as a separate stratum. Using the Directory, op. cit., we chose every tenth school in the district for our sample. Other districts in U.D.-1 and U.D.-2 were sampled as above. Special adjustments were made to delete junior college ADA from consideration. Thirteen out of 16 (81%) of the Unified District Superintendents (excluding Los Angeles), accounting for 69% of the sample's ADA, returned Superintendent Surveys.

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* Some of these districts informed us by letter that no official position of superintendent existed. Some informed us that because of their small size, they maintained very few records of the kinds of information we sought in the Superintendent Survey. We have reason to believe that the lack of availability of records characterized many other non-respondents among these very small districts.

In summary, the above three tables indicate that districts were properly sampled, providing districts containing one tenth of the ADA in each stratum. Superintendent returns under-represented very small elmentary districts, and provided a rather constant proportion of returns from the other strata.

3. Principal Surveys

All principals in the 142 sampled districts were sent Surveys. About 540 surveys (370 elementary and 170 secondary) out of 670 were returned. This represents a return of 80%. Cursory inspection of the master sheet indicates that return rates were similar for the various strata.

4. Teacher Preparing Institutions Surveys

Surveys were sent to all 49 accredited California TPI's and to 59 accredited out-of-state TPI's recommended by Dr. Blair Hurd of the State Department of Education as having supplied significant numbers of teachers to California. Thirty-six California TPI's (53% private) and 31 out-of-state TPI's (16% private) returned surveys. These are listed in Table A.6.

TABLE A.6

RETURNED QUESTIONNAIRES FROM TEACHER PREPARATORY INSTITUTIONS

California (36)

- California State College - Fullerton
- California State College - Hayward
- California State College - Long Beach
- California State College - Los Angeles
- Chapman College
- Chico State College
- Claremont Graduate School
- College of Notre Dame
- College of the Holy Names
- Dominican College of San Rafael
- Fresno State College
- Humboldt State College
- La Verne College
- Loyola University of Los Angeles
- Pacific Union College
- Pasadena College
- Pepperdine College
- Sacramento State College
- San Diego College for Women
- San Diego State College
- San Fernando Valley State College
- San Francisco College for Women
- San Francisco State College
- San Jose State College
- Stanford University
- University of California - Berkeley
- University of California - Davis
- University of California - Los Angeles
- University of California - Riverside
- University of California - Santa Barbara
- University of Redlands
- University of San Francisco
- University of Santa Clara
- University of the Pacific
- Westmont College
- Whittier College

Non-California (31)

- Ball State University
- Bemidji State College
- Bucknell University
- Colorado State College
- Columbia University
- Cornell University
- Creighton University
- Duke University
- Eastern Washington State College
- George Peabody College for Teachers
- Illinois State College
- Indiana State University
- Kansas State University
- Kent State University
- Louisiana State University
- Michigan State University
- Northern Illinois University
- Pennsylvania State University
- Trenton State College
- University of Iowa
- University of Maryland
- University of Michigan
- University of Minnesota
- University of Missouri
- University of Nebraska
- University of North Carolina
- University of Pennsylvania
- University of Tennessee
- University of Texas
- University of Washington
- Wisconsin State University

APPENDIX B

CHOICE OF STUDENTS AND FACULTY IN THE CAREER CHOICE SUBSTUDY

Page

Letter Showing Method of Selecting Respondents B-1

Faculty Interviews B-3

Arthur D. Little, Inc.
WESTERN DIVISION

500 SANSOME STREET
SAN FRANCISCO 11, CALIFORNIA
YUkon 1-2500

29 September 1966

Dr. Robert E. Hill, President
Chico State College
Chico, California

Dear Dr. Hill:

Our telephone call today resulted in a need to write this letter in order to describe in detail our request for collaboration in the study of teacher career choice. As you know, we are doing this study for a State-wide Committee, chaired by Dr. Richard Clowes.

In this part of the study we are conducting interviews at six teacher training institutions (UCLA, San Fernando Valley State College, Fullerton State College, Chico State College, Sacramento Community College, and Modesto Junior College).

In each institution we are to talk to:

4 faculty advisors
4 panels of students

We intend to spend one day at each campus, having two of our interviewers on campus and conducting 2 parallel interview schedules.

We would like to try the following schedule at Chico State College:

9:00 a.m. - 9:40 a.m.	2 members, Mathematics faculty
10:00 a.m. -11:30 a.m.	2 student panels - sophomores
1:20 p.m. - 2:00 p.m.	2 members, Elementary Education faculty
2:30 p.m. - 4:00 p.m.	2 panels - seniors

If you have modifications or suggestions that would make the schedule more convenient or workable, please let me know.

In the faculty selection, we are asking to interview 2 each of the faculties of Mathematics and Elementary Education. Please select a variety of rank levels. One faculty member whom we interview should be concerned with or oriented toward students who become teachers and one not.

Please notice that these are individual interviews as contrasted with the student panels.

HEADQUARTERS • CAMBRIDGE, MASSACHUSETTS
CHICAGO SAN FRANCISCO NEW YORK WASHINGTON SANTA MONICA
TORONTO SAN JUAN MEXICO CITY EDINBURGH ZÜRICH

29 September 1966

Dr. Robert E. Hill, President
Chico State College

For the student panels, we want 2 groups each of 5-6 sophomores and 5-6 seniors. We do not want a mixture of sophomores and seniors in a single panel. Overall, we want approximately 50% men and 50% women. The selection for members of the sophomore panels ought to be random in the sense that the names could be taken from a list and every 10th name selected. After you have selected the random group, please check to see that at least one student has stated his (her) intention to teach in a K-12 system.

For the senior panels we would wish to include 1-2 students with a stated intent to teach; 3 students from among the following subject matter areas:

Mathematics
English
Natural Sciences
Physical Sciences

and 2 students with any other subject matter major. We would also like some (1 or 2) fifth year students, that is, those students in their fifth year working toward an elementary or secondary teaching credential.

After you have received this, please do not hesitate to phone me collect to discuss any aspect or difficulties. We will plan to be at Chico State College on the 6th of October, with the 10th as an alternative date.

Thank you for your assistance.

Sincerely,

Howard Baumgarten

kef

FACULTY INTERVIEWS

	Subject Matter				
College	Elementary Education	Mathematics	English	Physical Sciences	Natural Sciences
Modesto Jr. College			2		2
Sacramento Community College		2		2	
Chico State College	2	2			
San Fernando Valley State College	2				2
San Diego State College	2			2	
University of California, Los Angeles	2	2			

APPENDIX C

CONTINGENCY TABLES FOR VARIABLES SIGNIFICANTLY RELATED TO ATTRITION IN SCHOOLS

Table No.		Page
C.1	Holding M.A. (H.1) and Teaching in First California District (H.5)	C-1
C.2	Class Size (H.6)	C-2
C.3	Hours Planning Lessons (H.8) and Hours Spent in Curriculum Development (H.10)	C-3
C.4	Salary (H.12)	C-3
C.5	Number of Class Periods (H.13)	C-4
C.6	Satisfaction with Personal Interest by Department Head (H.15) and Training Student Teachers (H.16)	C-5
C.7	Satisfaction with Exciting/Dull School (H.17) and Ease of Getting Things Done (H.18)	C-5
C.8	Satisfaction with Number of Classes (H.19) and Preparation Periods (H.20)	C-6
C.9	Satisfaction with Quality of Fellow Teachers (H.23)	C-7
C.10	Satisfaction with Cultural Background of Pupils (H.25)	C-8
C.11	Satisfaction with Intellectual Quality of Pupils (H.26)	C-9
C.12	Satisfaction with Teacher Prestige Among Pupils (H.28) and Superintendent Protection from Outside (H.29)	C-10
C.13	Satisfaction with School Protection from Outside (H.30)	C-10
C.14	Satisfaction with Fringe Benefits (H.33)	C-11
C.15	Satisfaction with Class Size (H.34)	C-11
C.16	Satisfaction with Pupil Discipline (H.36)	C-12

CONTINGENCY TABLES FOR VARIABLES (Continued)

Table No.		Page
C.17	Satisfaction with Opportunities for Professional Growth (H.38)	C-12
C.18	Satisfaction with Teaching Aids (H.40)	C-13
C.19	Satisfaction with Climate (H.42)	C-13
C.20	Satisfaction with Respect from Community (H.44)	C-14
C.21	Satisfaction with Personal Interest by Principal (H.45)	C-14
C.22	Satisfaction with Fairness of Administration (H.48) and Respect from School Administration (H.50)	C-15
C.23	Satisfaction with Training in Subjects (H.51)	C-15
C.24	Satisfaction with Respect from Other Teachers (H.53)	C-16
C.25	Teacher Age (H.61)	C-17
C.26	Satisfaction with Salary (H.52)	C-18

TABLE C.1

ATTRITION RATES AND HOLDING M.A. (H.1) AND TEACHING IN FIRST CALIFORNIA DISTRICT (H.5)

	H.1			H.5					
	K-6 F Small*			K-6 F Small			K-6 F Large		
Attrition Rates	M.A.	None	Total	First	Not First	Total	First	Not First	Total
0 or No Response	14.81	18.18	17.82	21.88	17.65	17.82	22.22	14.35	14.59
1-4	3.70	3.67	3.67	0.00	3.83	3.67	0.00	6.25	6.06
4-9	9.88	11.73	11.53	15.63	11.35	11.53	7.41	19.56	19.19
9-14	8.64	8.94	8.91	6.25	9.03	8.91	3.70	18.17	17.73
14-19	12.35	19.21	18.48	37.50	17.65	18.48	29.63	15.39	15.82
19-29	33.33	23.61	24.64	9.38	25.31	24.64	25.93	15.63	15.94
29 or More	17.28	14.66	14.94	9.38	15.18	14.94	11.11	10.65	10.66
Totals	81	682	763	32	731	763	27	864	891
Significance Level	.05			.05			.05		

---

* Size of district in which school is located

TABLE C.2

ATTRITION RATES AND CLASS SIZE (H.6)

	K-6 F Large			7-12 F Small		
Attrition Rates	Less than 30	Over 30	Total	Less than 30	Over 30	Total
0 or No Response	13.17	15.44	14.59	39.93	24.49	33.41
1-4	1.50	8.80	6.06	0.00	0.00	0.00
4-9	19.76	18.85	19.19	2.61	7.14	4.53
9-14	19.46	16.70	17.73	11.19	16.33	13.36
14-19	12.87	17.59	15.82	15.67	11.73	14.01
19-29	21.26	12.75	15.94	18.66	27.55	22.41
29 or more	11.98	9.87	10.66	11.94	12.76	12.28
Totals	334	557	891	268	196	464
Significance Level	.01			.05		

	7-12 F Large			7-12 M Large		
Attrition Rates	Less than 30	Over 30	Total	Less than 30	Over 30	Total
0 or No Response	18.24	16.15	16.92	14.14	16.67	15.73
1-4	0.00	0.00	0.00	9.42	10.80	10.29
4-9	10.00	19.24	15.84	26.70	41.98	36.31
9-14	12.35	6.87	8.89	14.14	6.79	9.51
14-19	22.94	21.99	22.34	12.57	7.72	9.51
19-29	24.71	27.15	26.25	18.32	8.64	12.23
29 or more	11.76	8.59	9.76	4.71	7.41	6.41
Totals	170	291	461	191	324	515
Significance Level	.05			.01		

TABLE C.3

ATTRITION RATES AND HOURS PLANNING LESSONS (H.8) AND HOURS SPENT IN CURRICULUM DEVELOPMENT (H.10)

	H.8			H.10		
	7-12 F Small			7-12 M Large		
Attrition Rates	Under 5	Over 5	Total	Under 5	Over 5	Total
0 or No Response	36.32	31.18	33.41	15.52	16.11	15.73
1-4	0.00	0.00	0.00	11.34	8.33	10.29
4-9	2.99	5.70	4.53	31.94	44.44	36.31
9-14	15.42	11.79	13.36	8.96	10.56	9.51
14-19	14.93	13.31	14.01	11.04	6.67	9.51
19-29	21.89	22.81	22.41	14.03	8.89	12.23
29 or more	8.46	15.21	12.28	7.16	5.00	6.41
Totals	201	263	464	335	180	515
Significance Level	.05			.05		

TABLE C.4

ATTRITION RATES AND SALARY (H.12)

	7-12 M Small			7-12 M Large		
Attrition Rates	Over $8,000	Under $8,000	Total	Over $8,000	Under $8,000	Total
0 or No Response	22.81	23.90	23.13	16.83	11.11	15.73
1-4	14.85	5.66	12.13	11.06	7.07	10.29
4-9	28.65	25.16	27.61	37.74	30.30	36.31
9-14	13.79	13.21	13.62	8.65	13.13	9.51
14-19	10.61	16.35	12.31	9.38	10.10	9.51
19-29	5.31	11.95	7.28	10.58	19.19	12.23
29 or more	3.98	3.77	3.92	5.77	9.09	6.41
Totals	377	159	536	416	99	515
Significance Level	.01			.05		

TABLE C.5

NUMBER OF CLASS PERIODS (H.13)

	7-12 M Small			7-12 M Large		
Attrition Rates	Over 6	Under 6	Total	Over 6	Under 6	Total
0 or No Response	20.83	24.18	23.13	24.29	14.38	15.73
1-4	14.29	11.14	12.13	10.00	10.34	10.29
4-9	23.81	29.35	27.61	20.00	38.88	36.31
9-14	16.07	12.50	13.62	5.71	10.11	9.51
14-19	7.74	14.40	12.31	8.57	9.66	9.51
19-29	13.10	4.62	7.28	24.29	10.34	12.23
29 or more	4.17	3.80	3.92	7.14	6.29	6.41
Totals	168	368	536	70	445	515
Significance Level	.05			.01		

TABLE C.6

ATTRITION RATES AND SATISFACTION WITH PERSONAL INTEREST BY DEPARTMENT HEAD (H.15) AND TRAINING STUDENT TEACHERS (H.16)

	H.15			H.16		
	7-12 F Large			K-6 F Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	19.19	16.30	16.92	23.33	13.23	14.59
1-4	0.00	0.00	0.00	5.00	6.23	6.06
4-9	17.17	15.47	15.84	7.50	21.01	19.19
9-14	9.09	8.84	8.89	16.67	17.90	17.73
14-19	28.28	20.72	22.34	13.33	16.21	15.82
19-29	17.17	28.73	26.25	19.17	15.43	15.94
29 or More	9.09	9.94	9.76	15.00	9.99	10.66
Totals	99	362	461	120	771	891
Significance Level	.05			.01		

TABLE C.7

ATTRITION RATES AND SATISFACTION WITH EXCITING/DULL SCHOOL (H.17) AND EASE OF GETTING THINGS DONE (H.18)

	H.17			H.18		
	K-6 F Large			7-12 M Small		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	11.11	15.03	14.59	23.96	22.95	23.13
1-4	6.06	6.06	6.06	11.46	12.27	12.13
4-9	17.17	19.44	19.19	18.75	29.55	27.61
9-14	17.17	17.80	17.73	12.50	13.86	13.62
14-19	13.13	16.16	15.82	15.63	11.59	12.31
19-29	15.15	16.04	15.94	8.33	7.05	7.28
29 or More	20.20	9.47	10.66	9.38	2.73	3.92
Totals	99	792	891	96	440	536
Significance Level	.05			.05		

TABLE C.8

ATTRITION RATES AND SATISFACTION WITH NUMBER OF CLASSES (H.19) AND PREPARATION PERIODS (H.20)

	H.19 7-12 M Large			H.20 7-12 M Small		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	16.26	15.56	15.73	21.26	23.72	23.13
1-4	8.94	10.71	10.29	14.96	11.25	12.13
4-9	34.15	36.99	36.31	32.28	26.16	27.61
9-14	17.89	6.89	9.51	9.45	14.91	13.62
14-19	11.38	8.93	9.51	14.17	11.74	12.31
19-29	5.69	14.29	12.23	3.15	8.56	7.28
29 or More	5.69	6.63	6.41	4.72	3.67	3.92
Totals	123	392	515	127	409	536
Significance Level	.01			.05		

TABLE C.9

ATTRITION RATES AND SATISFACTION WITH QUALITY OF FELLOW TEACHERS (H.23)

	K-6 F Large		
Attrition Rates	Satisfied	Not Satisfied	Total
0 or No Response	15.03	14.16	14.59
1-4	6.38	5.75	6.06
4-9	23.46	15.04	19.19
9-14	17.54	17.92	17.73
14-19	12.76	18.81	15.82
19-29	15.03	16.81	15.94
29 or More	9.79	11.50	10.66
Totals	439	452	891
Significance Level	.01		

	7-12 M Small			7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	20.79	25.68	23.13	14.72	16.55	15.73
1-4	16.49	7.39	12.13	11.26	9.51	10.29
4-9	28.67	26.46	27.61	43.72	30.28	36.31
9-14	13.98	13.23	13.62	10.82	8.45	9.51
14-19	11.47	13.23	12.31	6.49	11.97	9.51
19-29	5.38	9.34	7.28	8.66	15.14	12.23
29 or More	3.23	4.67	3.92	4.33	8.10	6.41
Totals	279	257	536	231	284	515
Significance Level	.01			.01		

TABLE C.10

ATTRITION RATES AND SATISFACTION WITH CULTURAL BACKGROUND OF PUPILS (H.25)

	7-12 M Small			7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	10.98	25.33	23.13	15.91	15.69	15.73
1-4	23.17	10.13	12.13	7.95	10.77	10.29
4-9	41.46	25.11	27.61	48.86	33.72	36.31
9-14	7.32	14.76	13.62	5.68	10.30	9.51
14-19	4.88	13.66	12.31	5.68	10.30	9.51
19-29	7.32	7.27	7.28	6.82	13.35	12.23
29 or More	4.88	3.74	3.92	9.09	5.85	6.41
Totals	82	454	536	88	427	515
Significance Level	.01			.05		

TABLE C.11

ATTRITION RATES AND SATISFACTION WITH INTELLECTUAL QUALITY OF PUPILS (H.26)

	K-6 F Small			7-12 F Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	16.51	18.04	17.82	4.35	19.13	16.92
1-4	5.50	3.36	3.67	0.00	0.00	0.00
4-9	5.50	12.54	11.53	24.64	14.29	15.84
9-14	6.42	9.33	8.91	2.90	9.95	8.89
14-19	12.84	19.42	18.48	31.88	20.66	22.34
19-29	30.28	23.70	24.64	17.39	27.81	26.25
29 or More	22.94	13.61	14.94	18.84	8.16	9.76
Totals	109	654	763	69	392	461
Significance Level	.01			.05		

	7-12 M Small			7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	12.35	25.05	23.13	16.44	15.61	15.73
1-4	28.40	9.23	12.13	6.85	10.86	10.29
4-9	34.57	26.37	27.61	50.68	33.94	36.31
9-14	6.17	14.95	13.62	5.48	10.18	9.51
14-19	8.64	12.97	12.31	2.74	10.63	9.51
19-29	4.94	7.69	7.28	5.48	13.35	12.23
29 or More	4.94	3.74	3.92	12.33	5.43	6.41
Totals	81	455	536	73	442	515
Significance Level	.01			.05		

TABLE C.12

ATTRITION RATES AND SATISFACTION WITH TEACHER PRESTIGE AMONG PUPILS (H.28) AND SUPERINTENDENT PROTECTION FROM OUTSIDE (H.29)

	H.28			H.29		
	7-12 F Small			7-12 F Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	42.14	28.85	33.41	16.00	17.10	16.92
1-4	0.00	0.00	0.00	0.00	0.00	0.00
4-9	3.77	4.92	4.53	14.67	16.06	15.84
9-14	10.06	15.08	13.36	18.67	6.99	8.89
14-19	15.09	13.44	14.01	25.33	21.76	22.34
19-29	18.24	24.59	22.41	18.67	27.72	26.25
29 or More	10.69	13.11	12.28	6.67	10.36	9.76
Totals	159	305	464	75	386	461
Significance Level	.05			.05		

TABLE C.13

ATTRITION RATES AND SATISFACTION WITH SCHOOL PROTECTION FROM OUTSIDE (H.30)

	7-12 F Small			7-12 F Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	31.33	34.56	33.41	15.15	17.63	16.92
1-4	0.00	0.00	0.00	0.00	0.00	0.00
4-9	5.42	4.03	4.53	17.42	15.20	15.84
9-14	15.06	12.42	13.36	10.61	8.21	8.89
14-19	19.28	11.07	14.01	27.27	20.36	22.34
19-29	19.88	23.83	22.41	18.94	29.18	26.25
29 or More	9.04	14.09	12.28	10.61	9.42	9.76
Totals	166	298	464	132	329	461
Significance Level	.05			.05		

TABLE C.14

ATTRITION RATES AND SATISFACTION WITH FRINGE BENEFITS (H.33)

	K-6 F Large			7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	12.73	15.20	14.59	10.17	17.38	15.73
1-4	8.64	5.22	6.06	15.25	8.82	10.29
4-9	23.18	17.88	19.19	42.37	34.51	36.31
9-14	16.36	18.18	17.73	13.56	8.31	9.51
14-19	17.27	15.35	15.82	5.08	10.83	9.51
19-29	15.00	16.24	15.94	6.78	13.85	12.23
29 or More	6.82	11.92	10.66	6.78	6.30	6.41
Totals	220	671	891	118	397	515
Significance Level	.01			.01		

TABLE C.15

ATTRITION RATES AND SATISFACTION WITH CLASS SIZE (H.34)

	7-12 F Small			7-12 F Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	42.25	29.50	33.41	14.46	17.46	16.92
1-4	0.00	0.00	0.00	0.00	0.00	0.00
4-9	3.52	4.97	4.53	7.23	17.72	15.84
9-14	9.86	14.91	13.36	15.66	7.41	8.89
14-19	16.20	13.04	14.01	30.12	20.63	22.34
19-29	18.31	24.22	22.41	20.48	27.51	26.25
29 or More	9.86	13.35	12.28	12.05	9.26	9.76
Totals	142	322	464	83	378	461
Significance Level	.05			.05		

TABLE C.16

ATTRITION RATES AND SATISFACTION WITH PUPIL DISCIPLINE (H.36)

	K-6 F Large			7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	18.44	13.62	14.59	15.71	15.73	15.73
1-4	8.38	5.48	6.06	12.86	9.33	10.29
4-9	23.46	18.12	19.19	42.86	33.87	36.31
9-14	15.08	18.40	17.73	10.00	9.33	9.51
14-19	11.17	16.99	15.82	5.00	11.20	9.51
19-29	14.53	16.29	15.94	5.71	14.67	12.23
29 or More	8.94	11.10	10.66	7.86	5.87	6.41
Totals	179	712	891	140	375	515
Significance Level	.05			.01		

TABLE C.17

ATTRITION RATES AND SATISFACTION WITH OPPORTUNITIES FOR PROFESSIONAL GROWTH (H.38)

	7-12 M Small		
Attrition Rates	Satisfied	Not Satisfied	Total
0 or No Response	20.35	23.88	23.13
1-4	15.93	11.11	12.13
4-9	33.63	26.00	27.61
9-14	8.85	14.89	13.62
14-19	9.73	13.00	12.31
19-29	7.08	7.33	7.28
29 or More	4.42	3.78	3.92
Totals	113	423	536
Significance Level	.05		

TABLE C.18

ATTRITION RATES AND SATISFACTION WITH TEACHING AIDS (H.40)

	7-12 F Large			7-12 M Small		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	16.52	17.05	16.92	30.72	20.10	23.13
1-4	0.00	0.00	0.00	13.73	11.49	12.13
4-9	18.26	15.03	15.84	20.26	30.55	27.61
9-14	10.43	8.38	8.89	13.07	13.84	13.62
14-19	26.96	20.81	22.34	13.07	12.01	12.31
19-29	18.26	28.90	26.25	5.88	7.83	7.28
29 or More	9.57	9.83	9.76	3.27	4.18	3.92
Totals	115	346	461	153	383	536
Significance Level	.05			.05		

TABLE C.19

ATTRITION RATES AND SATISFACTION WITH CLIMATE (H.42)

	7-12 M Small			7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	21.67	24.32	23.13	14.29	16.97	15.73
1-4	16.67	8.45	12.13	9.66	10.83	10.29
4-9	31.67	24.32	27.61	42.44	31.05	36.31
9-14	10.42	16.22	13.62	10.50	8.66	9.51
14-19	8.75	15.20	12.31	8.82	10.11	9.51
19-29	4.17	9.80	7.28	8.40	15.52	12.23
29 or More	6.67	1.69	3.92	5.88	6.86	6.41
Totals	240	296	536	238	277	515
Significance Level	.01			.05		

TABLE C.20

ATTRITION RATES AND SATISFACTION WITH RESPECT FROM COMMUNITY (H.44)

	K-6 F Large			7-12 Male Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	14.22	14.91	14.59	14.84	16.22	15.73
1-4	7.35	4.97	6.06	14.29	8.11	10.29
4-9	22.06	16.77	19.19	38.46	35.14	36.31
9-14	17.40	18.01	17.73	10.44	9.01	9.51
14-19	15.69	15.94	15.82	9.89	9.31	9.51
19-29	14.71	16.98	15.94	7.69	14.71	12.23
29 or More	8.58	12.42	10.66	4.40	7.51	6.41
Totals	408	483	891	182	333	515
Significance Level	.01			.05		

TABLE C.21

ATTRITION RATES AND SATISFACTION WITH PERSONAL INTEREST BY PRINCIPAL (H.45)

	K-6 F Small			7-12 F Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	19.89	15.91	17.82	20.35	14.88	16.92
1-4	4.63	2.78	3.67	0.00	0.00	0.00
4-9	11.44	11.62	11.53	13.95	16.96	15.84
9-14	8.72	9.09	8.91	11.05	7.61	8.89
14-19	20.16	16.92	18.48	26.74	19.72	22.34
19-29	23.43	25.76	24.64	18.02	31.14	26.25
29 or More	11.72	17.93	14.94	9.88	9.69	9.76
Totals	367	396	763	172	289	461
Significance Level	.01			.01		

TABLE C.22

ATTRITION RATES AND SATISFACTION WITH FAIRNESS OF ADMINISTRATION (H.48) AND RESPECT FROM SCHOOL ADMINISTRATION (H.50)

	H.48			H.50		
	7-12 F Small			7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	35.04	31.74	33.41	16.42	14.98	15.73
1-4	0.00	0.00	0.00	12.31	8.10	10.29
4-9	6.41	2.61	4.53	36.57	36.03	36.31
9-14	14.10	12.61	13.36	10.07	8.91	9.51
14-19	14.96	13.04	14.01	10.82	8.10	9.51
19-29	21.37	23.48	22.41	10.07	14.57	12.23
29 or More	8.12	16.52	12.28	3.73	9.31	6.41
Totals	234	230	464	268	247	515
Significance Level	.05			.01		

TABLE C.23

ATTRITION RATES AND SATISFACTION WITH TRAINING IN SUBJECTS (H.51)

	7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total
0 or No Response	14.75	18.12	15.73
1-4	12.57	4.70	10.29
4-9	38.25	31.54	36.31
9-14	9.56	9.40	9.51
14-19	9.84	8.72	9.51
19-29	9.02	20.13	12.23
29 or More	6.01	7.38	6.41
Totals	366	149	515
Significance Level	.01		

TABLE C.24

ATTRITION RATES AND SATISFACTION WITH RESPECT FROM OTHER TEACHERS (H.53)

	K-6 F Large			7-12 F Small		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	14.24	15.33	14.59	34.70	30.61	33.41
1-4	5.63	6.97	6.06	0.00	0.00	0.00
4-9	22.19	12.89	19.19	4.42	4.76	4.53
9-14	16.89	19.51	17.73	14.51	10.88	13.36
14-19	16.06	15.33	15.82	14.83	12.24	14.01
19-29	15.56	16.72	15.94	20.82	25.85	22.41
29 or More	9.44	13.24	10.66	10.73	15.65	12.28
Totals	604	287	891	317	147	464
Significance Level	.01			.05		

	7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total
0 or No Response	14.71	17.22	15.73
1-4	10.78	9.57	10.29
4-9	39.22	32.06	36.31
9-14	9.80	9.09	9.51
14-19	9.48	9.57	9.51
19-29	11.76	12.92	12.23
29 or More	4.25	9.57	6.41
Totals	306	209	515
Significance Level	.05		

TABLE C.25

ATTRITION RATES AND TEACHER AGE (H.61)

	7-12 F Small			7-12 F Large		
Attrition Rates	Born Before 1920	Born After 1920	Total	Born Before 1920	Born After 1920	Total
0 or No Response	41.06	29.71	33.41	19.55	15.85	16.92
1-4	0.00	0.00	0.00	0.00	0.00	0.00
4-9	5.96	3.83	4.53	19.55	14.33	15.84
9-14	13.91	13.10	13.36	12.78	7.32	8.89
14-19	10.60	15.65	14.01	20.30	23.17	22.34
19-20	16.56	25.24	22.41	21.05	28.35	26.25
29 or More	11.92	12.46	12.28	6.77	10.98	9.76
Totals	151	313	464	133	328	461
Significance Level	.05			.05		

TABLE C.26

ATTRITION RATES AND SATISFACTION WITH SALARY (H.52)

	K-6 F Small			K-6 F Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	16.28	19.82	17.82	14.70	14.46	14.59
1-4	4.19	3.00	3.67	6.63	5.39	6.06
4-9	12.56	10.21	11.53	22.77	14.95	19.19
9-14	7.91	10.21	8.91	17.39	18.14	17.73
14-19	15.12	22.82	18.48	14.49	17.40	15.82
19-29	27.44	21.02	24.64	14.29	17.89	15.94
29 or More	16.51	12.91	14.94	9.73	11.76	10.66
Totals	430	333	763	483	408	891
Significance Level	.01			.01		

	7-12 M Small			7-12 M Large		
Attrition Rates	Satisfied	Not Satisfied	Total	Satisfied	Not Satisfied	Total
0 or No Response	18.84	27.69	23.13	10.82	21.05	15.73
1-4	17.75	6.15	12.13	14.18	6.07	10.29
4-9	31.52	23.46	27.61	39.18	33.20	36.31
9-14	11.59	15.77	13.62	10.82	8.10	9.51
14-19	10.51	14.23	12.31	10.07	8.91	9.51
19-29	5.43	9.23	7.28	8.58	16.19	12.23
29 or More	4.35	3.46	3.92	6.34	6.48	6.41
Totals	276	260	536	268	247	515
Significance Level	.01			.01		

MAX RAFFERTY
Superintendent of Public Instruction
Secretary and Executive Officer

CALIFORNIA STATE BOARD OF EDUCATION
721 CAPITOL MALL, SACRAMENTO 95814

August 20, 1966

Dear California Teacher:

I am writing to you and about 8,000 other teachers for help in a matter of great importance to California education---the teacher shortage or supply problem.

We want to know what teachers think about their work, their career and the things within that career which are important to them. We know of no better way to learn this than to ask teachers themselves. If the means to this desirable end is the inevitable survey, we have tried to minimize the effort to you while obtaining a breadth and depth of information not previously available.

To do this we have selected an outside, objective research organization to conduct the study under the guidance of a statewide representative committee, including teachers and other people involved with California education. In fact, you may hear from the teacher organizations urging you to cooperate in this effort.

For our convenience and your protection, the questionnaires have been distributed through school district offices, but you will mail them directly back to the study team. All answers will be kept in strict confidence and cannot be identified with you.

We hope you will take a personal interest---perhaps self-interest---in helping give some of the information to assist in improving the attractiveness of a teaching career in California.

Yours,

Tom Braden

Thomas W. Braden
President

CONFIDENTIAL
TEACHER SURVEY

Purpose

This is a State-wide survey conducted by Arthur D. Little, Inc., for the State of California Board of Education, to find out what California teachers think about their work. Eight thousand teachers, one out of two teachers in 10% of California school districts, are participating. Results will help the Board, the Department of Education, and school districts improve the attractiveness of teaching.

Directions

Do not write your name or school on the questionnaire. After reading these directions, tear off the covering letter with your name on it. Your answers will be kept in strict confidence and can not be identified with you.

This questionnaire is designed for automated scanning of your responses. Questions are answered by marking the appropriate answer spaces as illustrated in this example:

Q. Which is the only marking instrument that will read properly?

ball pen....○ fountain pen....○ black lead pencil ...● other....○

answer

Please use a soft pencil (No. 2 is ideal) and observe carefully these important requirements:

Make heavy black marks that fill the circle.
Erase cleanly any answer you wish to change.
Where written response is called for, stay well within the area designated.
Make no stray markings of any kind.

Those questions which ask for a specific year are marked in this manner:

1
9
(Write two numbers in boxes) → 5 ⓪①②③④●⑥⑦⑧⑨ ←(blacken corresponding circles)
9 ⓪①②③④⑤⑥⑦⑧●

It will take 25 to 30 minutes to complete this questionnaire.

Because analysis must be completed within the next two months, we urge you to return the questionnaire within a week of its receipt so that your experiences and opinions can be included. To avoid biased responses, please do not discuss the items with anyone in the school until all questionnaires have been returned. You will find that some questions do not apply to you; please mark the ''Not applicable'' circle for these.

Thank you for your cooperation on this project of great importance to the teaching profession and to California.

Arthur D. Little, Inc.

DETACH ALONG THIS FOLD. RETURN ONLY THE MARKED QUESTIONNAIRE.

1. In what year were you born?

1
9
☐ ⓪①②③④⑤⑥⑦⑧⑨
☐ ⓪①②③④⑤⑥⑦⑧⑨

2. What is your sex? Male..○ Female..○

3. Which grades do you teach? (Mark more than one, if appropriate)

K–6...○ 7–8...○ 9–12...○

4. Are you

Married .... ○
Widowed .... ○
Divorced/Separated... ○
Single............. ○

5. How old is your youngest child?

I have no children.........○
Younger than 3...........○
3–7.....................○
8–16 ....○
17 or older ....○

6. Did you attend high school mostly

in California..○ outside California..○

Now we would like to ask you some questions about your elementary or secondary school teaching career. (For the purposes of this survey, do not include student teaching, counseling, administrative, or supervisory school positions as teaching.)

7. In what year did you first teach?

1
9
☐ ⓪①②③④⑤⑥⑦⑧⑨
☐ ⓪①②③④⑤⑥⑦⑧⑨

8. In what year did you first teach in California?

1
9
☐ ⓪①②③④⑤⑥⑦⑧⑨
☐ ⓪①②③④⑤⑥⑦⑧⑨

9. In the year before you began teaching, were you (check more than one if appropriate)

in college or graduate school ....○
student teaching ....○
homemaking...○
in the Armed Forces as a career ....○
in the Armed Forces but not as a career ....○
in another full time occupation than the above ....○

10. How many years have you been teaching? (Do not include gaps in your teaching career.)

0–3..○ 4–10..○ 11–20..○ more than 20..○

☐	☐	☐	☐
⓪	⓪	⓪	⓪
①	①	①	①
②	②	②	②
③	③	③	③
④	④	④	④
⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨
DO NOT WRITE HERE			
☐	☐	☐	☐
⓪	⓪	⓪	⓪
①	①	①	①
②	②	②	②
③	③	③	③
④	④	④	④
⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨

11. If there were gaps in your teaching career, how did you spend them?
(Check more than one, if appropriate.)

There were no gaps ○
Full-time college or graduate studies ○
Homemaking ○
In the Armed Forces ○
School counseling, administration, or supervision ○
Other occupation ○
Leaves of absence ○

12. What is the highest degree you have attained?

Less than a Bachelor's ○
Bachelor's degree ○
Master's degree ○
Doctor's degree ○
Other ○

Indicate the subject closest to

	13. your college major (mark one.)	14. your college minor (mark one.)	15. subjects in which you have some post-baccalaureate credits	16. subjects in which you have a Master's degree	17. subjects in which you have a Doctor's degree
Accounting	○	○	○	○	○
Agriculture	○	○	○	○	○
American Studies	○	○	○	○	○
Anthropology	○	○	○	○	○
Art	○	○	○	○	○
Biology/Bio Sci	○	○	○	○	○
Business Ed/Admin	○	○	○	○	○
Chemistry	○	○	○	○	○
Counseling	○	○	○	○	○
Diversified Major	○	○	○	○	○
Education Admin	○	○	○	○	○
Education (Gen)	○	○	○	○	○
Elementary Ed	○	○	○	○	○
Engineering	○	○	○	○	○
English	○	○	○	○	○
Foreign Language	○	○	○	○	○
Geography	○	○	○	○	○
History	○	○	○	○	○
Home Ec	○	○	○	○	○
Industrial Arts	○	○	○	○	○
Journalism	○	○	○	○	○
Language Arts	○	○	○	○	○
Library Sci	○	○	○	○	○
Mathematics	○	○	○	○	○
Music	○	○	○	○	○
Philosophy	○	○	○	○	○
Physical Ed	○	○	○	○	○
Physical Sci	○	○	○	○	○
Physics	○	○	○	○	○
Pol Sci/Int Relat	○	○	○	○	○
Psychology	○	○	○	○	○
Secondary Ed	○	○	○	○	○
Soc Sci (Gen)	○	○	○	○	○
Sociology	○	○	○	○	○
Speech-Drama	○	○	○	○	○
Other (specify)	○	○	○	○	○

18. From what kind of institution of higher education did you receive your Bachelor's degree?

- Have not received a Bachelor's degree .... ○
- California State College .... ○
- University of California .... ○
- California private college or university .... ○
- Teachers College/State College/Normal School/Public University outside California .... ○
- Private college or university outside California .... ○
- Other .... ○

19. When did you receive your Bachelor's degree?

Have no Bachelor's degree .... ○

1
9
☐ ⓪①②③④⑤⑥⑦⑧⑨
☐ ⓪①②③④⑤⑥⑦⑧⑨

20. As well as you can remember, in which calendar year did you receive your first California credential?

1
9
☐ ⓪①②③④⑤⑥⑦⑧⑨
☐ ⓪①②③④⑤⑥⑦⑧⑨

Have not applied for or received credential ..... ○

Have applied for but not received credential..... ○

	21. Mark the types of credentials you hold	22. Mark those you are teaching under this year	23. Mark those that are provisional	24. Mark those that are on partial fulfillment
Kindergarten-Primary	○	○	○	○
General Elementary	○	○	○	○
Junior High School	○	○	○	○
General Secondary	○	○	○	○
Special Secondary 1)	○	○	○	○
Gen Pupil Per Serv 2)	○	○	○	○
Adult Ed, Desig Subj	○	○	○	○
Exceptional Children 3)	○	○	○	○
Adult Ed Short Unit	○	○	○	○
Vocational	○	○	○	○
Military Science	○	○	○	○
Elementary Admin	○	○	○	○
Secondary Admin	○	○	○	○
Gen Administration	○	○	○	○
Supervision 4)	○	○	○	○
Sec Sch Admin Trade & Ind Ed	○	○	○	○
Spec Sec Voca (part-time)	○	○	○	○
Standard, Specialize Elem	○	○	○	○
Standard, Specialize Secon	○	○	○	○
Standard, Specialize JC	○	○	○	○
Standard, Special Ed	○	○	○	○
Stand, Designated Subj 5)	○	○	○	○
Stand Desig Services, Pupil	○	○	○	○
Standard Supervision	○	○	○	○
Standard Administration	○	○	○	○

1) e.g., Aviation, Art
2) include older Psychological Services credentials
3) include older Special Education credentials
4) include special subject supervision
5) e.g., Aviation Flight Instruction, Basic Military Drill

25

25. **How did you apply for your first credential?**

Applied directly to State .... ○
Recommended by a California college/university .... ○
Through county office and/or school district .... ○
Cannot remember .... ○
Have never applied for a credential .... ○

26. **Have you completed one or more years of college or graduate work after the bachelor's degree?**

Yes.......○ No........ ○

27. **If you are an elementary teacher in a self-contained classroom, mark H. Otherwise, mark the subjects which you teach.**

Agriculture .... Ⓐ
Art .... Ⓑ
Biology .... Ⓒ
Business Education ... Ⓓ
Chemistry .... Ⓔ
Drama .... Ⓕ
Driver Education ...... Ⓖ
Elementary education .. Ⓗ
English .... Ⓘ
Foreign languages .... Ⓙ
Geography .... Ⓚ
History .... Ⓛ
Home Economics ...... Ⓜ
Industrial Arts........ Ⓝ
Journalism .... Ⓞ
Mathematics.......... Ⓟ
Mentally Retarded..... Ⓠ
Music .... Ⓡ
Physical Education .... Ⓢ
Physics .... Ⓣ
Reading .... Ⓤ
Science (General) ...... Ⓥ
Social Studies .... Ⓦ
Speech .... Ⓧ
Trade-Technical .... Ⓨ
Others (Specify)........ Ⓩ

☐

28. **If you are a secondary school teacher or elementary specialist (e.g. Music, Art), what percentage of the time do you teach subjects directly related to your college and/or graduate school major?**

Teach in a self-contained classroom .... ○
100%...○ 75–99%...○ 50–74%...○ 25–49% ...○ Less than 25%...○

29. **If you are a secondary school teacher or elementary specialist, what percentage of your time do you consider that you spend teaching subjects in which you are adequately formally trained? (Formal training includes college major, other college courses, graduate school courses, and in-service training courses).**

Teach in a self-contained classroom .... ○
100% ..○ 75–99% ...○ 50–74%...○ 25–49% ...○ Less than 25%...○

In terms of suitable college/graduate school courses on education methods and subject matter,

	30. do you know about their availability?	31. are they available at times convenient to you?	32. are they available within 25 miles of your home or school?
Yes	○	○	○
No	○	○	○
Don't know	○	○	○

33. **When did you last take a post-baccalaureate college or graduate school course, including summer school, evening extensions. Exclude in-service courses taught under the auspices of your school district.**

Never ..○
1
9
☐ ⓪①②③④⑤⑥⑦⑧⑨
☐ ⓪①②③④⑤⑥⑦⑧⑨

34. **When did you last take such an in-service course?**

Never ..○
1
9
☐ ⓪①②③④⑤⑥⑦⑧⑨
☐ ⓪①②③④⑤⑥⑦⑧⑨

35. Please mark the kinds of people or reasons that influenced your original decision to teach. (Mark more than one, if applicable)

- Advice of college counselor or advisor ○
- Advice of high school counselor or advisor ○
- Chance to help others, contribute to society ○
- Chance to meet the right kind of spouse ○
- Chance to teach subject matter of great interest to me ○
- Example of inspiring teacher in college ○
- Example of inspiring teacher in elementary or high school ○
- Example of teacher friends (similar age) ○
- Joy of seeing children learn ○
- Security ○
- Seemed the only available career at the time ○

Considering the kinds of careers that you could reasonably expect, mark whether each of the objectives below
is not important or applicable to you
is more likely to be attained by you in teaching
is equally likely to be attained by you in teaching and other possible careers
is more likely to be attained by you in another possible career.

	Not Important or Applicable	More Attainable in Teaching	About Same	More Attainable in Other Career
36. Contribute to society	○	○	○	○
37. Express orginality	○	○	○	○
38. Good income	○	○	○	○
39. Help others	○	○	○	○
40. Pleasant co-workers	○	○	○	○
41. Pleasant working conditions	○	○	○	○
42. Profession to fall back on in case of (present/potential) husband's disability	○	○	○	○
43. Position of responsibility	○	○	○	○
44. Prestige/status in community	○	○	○	○
45. Security through tenure and favorable retirement benefits	○	○	○	○
46. Vacation time	○	○	○	○

47. In how many California public school districts have you taught?

1 ....○ 2 ....○ 3.....○ 4 ....○ 5 ....○ 6 ....○

7....○ 8....○ 9 or more.........○

48. In how many out-of-State public school districts have you taught?

0 ....○ 1 ....○ 2 ....○ 3....○ 4 ....○ 5....○

6.....○ 7.... ○ 8.... ○ 9 or more............○

49. Was your first teaching position

in California.........○ outside California ....○

Mark the reasons (more than one, if applicable) that influenced you to choose	**50. your first teaching position.**	**51. your present teaching position.** **My present teaching position is my first.** (Mark and go on to the next question). ○
My only application/offer was with this district	○	○
Amount of responsibility	○	○
Availability of higher education facilities	○	○
Chance to reach disadvantaged children	○	○
Climate	○	○
Community cultural advantages	○	○
Community is close to where my husband had a job	○	○
Stimulating place to live	○	○
Freedom to teach the way I think I should	○	○
Fringe benefits (insurance, leaves)	○	○
Guaranteed assignment to school, grade, or subject matter of choice	○	○
High socio-economic level of community	○	○
Near my college	○	○
Personality of recruiter	○	○
Personnel practices	○	○
Quality of superintendent, principal or administrative staff	○	○
Recruiter told me of advantages	○	○
Salary	○	○
Supervision	○	○
Superior students	○	○
Tenure and retirement regulations	○	○
None of the above	○	○

52. Now we are interested in your reasons for having left teaching positions. Consider the district which you most recently left in California. Mark the reasons that influenced you to leave. (Mark more than one, if applicable).

I have never left a teaching position in a California district. (Mark and go on to the next question.) ○
Reason unconnected with school district or community ○
Community political climate ○
Community too dull ○
Contract was terminated/asked to resign ○
Housing problems ○
Lack of social opportunities ○
No opportunity for originality ○
No opportunity for promotion ○
Paperwork ○
Personnel practices ○
Problems presented by other teachers ○
Problems presented by parents ○
Problems presented by principal ○
Problems presented by pupils ○
Problems presented by superintendent ○
Problems presented by supervisor ○
Red tape ○
Salary too low ○
Took leave of absence ○
(specify) Other ○

GO ON TO PAGE NINE

We would like to ask you some questions about your present teaching position and plans.

53. **What is the average size of the classes you teach?**

Less than 20 ...... ○ 20–25 .... ○ 26–30 ..... ○ 31–35 .... ○
36–40 .... ○ More than 40 .... ○

Between September and June, how many hours a week do you spend outside regular school hours

	54 grading or evaluating papers	55 planning lessons you will teach	56 on unpaid extra-curricular activities (e.g. supervising dances)	57 on professional non-classroom activities (e.g. curriculum development)
0–5	○	○	○	○
6–10	○	○	○	○
11–20	○	○	○	○
more than 20	○	○	○	○
too early to tell	○	○	○	○

58. **If you taught in 1965–66, what did you do in the summer of 1966?**
(Answer more than one, if appropriate).

Did not teach in 1965–66	○
Taught summer school	○
Took courses	○
Rested and travelled	○
Planned curricula, for pay	○
Planned curricula, without pay	○
Worked at something other than elementary or secondary school teaching	○

59. **Did you have any employment in addition to teaching between September 1965 and June 1966?**

Did not teach in 1965–66 .... ○ Yes ...... ○ No ...... ○

60. **What is your annual salary for the current September-June school year? Include money received for coaching.**

Less than $6,050	○	$9,050–9,949	○
$6,050–6,949	○	$9,950–10,999	○
$6,950–7,999	○	$11,000–12,4999	○
$8,000–9,049	○	$12,500 or more	○

If you teach in a self-contained classroom, mark A for questions 61–63. Otherwise, indicate, for a typical day, how many

	61. class periods you teach	62. preparation periods in school you have	63. different subjects e.g., 7th History, 8th History, you teach
0 or not applicable	Ⓐ	Ⓐ	Ⓐ
1	Ⓑ	Ⓑ	Ⓑ
2	Ⓒ	Ⓒ	Ⓒ
3	Ⓓ	Ⓓ	Ⓓ
4	Ⓔ	Ⓔ	Ⓔ
5	Ⓕ	Ⓕ	Ⓕ
6	Ⓖ	Ⓖ	Ⓖ
7 or more	Ⓗ	Ⓗ	Ⓗ

64. **Please mark those aspects of your school and district that definitely contribute to your satisfaction in teaching there and make you wish to stay there. Mark more than one, if applicable. Because this study is trying to examine all important aspects of teaching, the list is long. Please give all aspects your careful consideration.**

- Respect from other teachers ○
- Respect from the community ○
- Respect from school administrators ○
- Teacher prestige among pupils ○
- Personal interest in me by department heads ○
- Personal interest in me by principal ○
- Superintendent protection of teachers from outside pressures ○
- School protection of teachers from outside pressures ○
- Recognition of accomplishment by supervisors ○
- Chance to choose classroom assignments ○
- Chance to participate in planning programs and curricula ○
- Freedom to teach in my own way ○
- Teaching subjects in which I am trained ○
- Responsibility for training student teachers/interns ○
- Exciting/dull school ○
- Friendships with other teachers ○
- Salary ○
- Fringe benefits ○
- Opportunities for professional growth ○
- Opportunities for positions in administration and counseling ○
- Ease of getting things done ○
- Availability of substitutes when required ○
- Quality of teaching aids (audio, visual, computers) ○
- Availability of teaching materials ○
- Paperwork duties ○
- Non-teaching duties (coaching, PTA) ○
- Class size ○
- Number of classes ○
- Number of preparations ○
- Number of rest periods ○
- Time for preparation during school hours ○
- Number of classroom interruptions ○
- Quality of fellow teachers ○
- Fairness of administrators ○
- Professional competence of department heads ○
- Professional competence of principal ○
- Quality of subjects you teach ○
- Variety of subjects you teach ○
- Pupil discipline and order ○
- Pupils' cultural background ○
- Pupils' intellectual quality ○
- Climate ○
- Exciting/dull community ○
- Effect on private life ○
- Tenure investment in the district ○
- Closeness to retirement age ○
- None of the above makes me wish to continue teaching here ○

Which one of the following in each column below, best describes

	65. **what you plan to do 2–3 years from now.**	**66.** **your long range plans.**
Teach same grades in same school	Ⓐ	Ⓐ
Teach same grades in different school, same district	Ⓑ	Ⓑ
Teach same grades in another district	Ⓒ	Ⓒ
Move up (elementary to secondary; secondary to junior college) in teaching level	Ⓓ	Ⓓ
Become a school administrator/supervisor/counselor	Ⓔ	Ⓔ
Teach at a four year college	Ⓕ	Ⓕ
Become a full-time homemaker	Ⓖ	Ⓖ
Go into an occupation other than teaching	Ⓗ	Ⓗ
Undecided	Ⓘ	Ⓘ

If you marked one of the answers between C and I above, which two of the following changes would do the most to keep you in your present position? Which two would make least difference to you?

	67. Most	68. Least
I did not check between C and I	○	○
Better grouping practices	○	○
Better in-service education	○	○
District pays all fringe benefits	○	○
More help from consultants	○	○
More help from teacher aides	○	○
One more period during the day for preparation	○	○
10% higher salary	○	○
10% smaller classes	○	○
Other (specify) ☐	○	○
Nothing I can think of	○	○

We would like some information on the person whom you know best, who has left full time public elementary or secondary teaching in a California school district recently. Please think over carefully whether you know such a person.

69. (If you do not know anyone well who recently left teaching, mark here .... ○ and go on to question 75).

70. **This person left**

- for health reasons .... Ⓐ
- to retire .... Ⓑ
- to become a full-time homemaker .... Ⓒ
- to take a non-teaching position in a school district .... Ⓓ
- to take a position in a special Federal education program, e.g., compensatory education .... Ⓔ
- to take another kind of position ..... Ⓕ

71. **If you marked F above, what kind of position did this person take?**
(If you did not mark F, mark here .... ○

Occupational Title		Examples
Farm or ranch owner and/or manager	○	Owns farm or ranch or manages farm or ranch for someone else
Farm or ranch worker or foreman	○	Workers on or sharecrops on someone else's farm
Workman or laborer	○	Factory or mine worker, fisherman, filling station attendant, longshoreman
Private household worker	○	Servant, butler
Protective worker	○	Policeman, detective, sheriff, fireman
Service worker	○	Barber, beautician, waiter in someone else's business
Semi-skilled worker	○	Factory machine operator (but not foreman), bus or cab driver, meat cutter
Skilled worker or foreman working for someone else	○	Baker, carpenter, electrician, enlisted man in Armed Forces, mechanic, plumber, plasterer, tailor, foreman in factory or mine
Clerical worker	○	Bank teller, bookkeeper, sales clerk, office clerk, mail carrier, messenger
Salesman	○	Wholesale or retail sales, real estate, insurance

Continued on Page 12

Occupational Title	Examples
Technical worker .... ○	Draftsman, surveyor, medical or dental technician
Manager .... ○	Sales manager, store manager, office manager, business manager, factory department supervisor
Proprietor or owner of small business .... ○	Electrician in business for himself, owner of restaurant, wholesaler, retailer, contractor
Official or owner of large business .... ○	Owner of manufacturing company, officer in a large company or bank, senior government official
Teacher .... ○	Elementary or secondary school teacher including private, nursery school and compensatory education
Professional, other than teacher .... ○	Actor, accountant, artist, clergyman, college teacher, counselor, dentist, engineer, lawyer, nurse, officer in Armed Forces, physician, scientist, teacher/trainer in industry
Housewife .... ○	Housewife
Unemployed .... ○	
Don't know .... ○	

72. **This person is** male ...... ○ female ...... ○

73. **This person left teaching at the age of**
20–25 .... ○ 26–30 .... ○ 31–40 ...... ○ over 40 .... ○

74. **Please mark the reasons that probably influenced this person to leave public school teaching.** (Mark more than one, if applicable).
Reason unconnected with school district .... ○
Contract was terminated/asked to resign .... ○
No opportunities for promotion .... ○
No opportunity for originality .... ○
Paperwork .... ○
Personnel practices .... ○
Prestige of teaching too low .... ○
Problems presented by other teachers .... ○
Problems presented by parents .... ○
Problems presented by principal .... ○
Problems presented by pupils .... ○
Problems presented by superintendent .... ○
Problems presented by supervisor .... ○
Red tape .... ○
Salary too low .... ○
Unable to obtain California credential .... ○
None of the above .... ○

75. **OPTIONAL.** If you have suggestions about what the State Board of Education can do to increase the attractiveness of California teaching as a profession, please send them, under separate cover, directly to Dr. Anton S. Morton, Arthur D. Little, Inc., 35 Acorn Park, Cambridge, Mass., 02140

When you have completed this questionnaire, please mail it, in the envelope supplied, to National Computer Systems, 1015 South 6th Street, Minneapolis, Minnesota, 55415.

THANK YOU FOR YOUR COOPERATION

1460--300 4-67 2,500